

WY-60
User's
Guide

WYSE



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Overview

Introduction

In addition to advanced display, communications, and keyboard features, this full-function ASCII terminal supports three ANSI-based operating modes as well as fourteen ASCII modes.

Chapters 1 through 4 present the basic information you'll need to install and operate the terminal in its native mode. Appendix D includes a complete list of the commands supported by the terminal in each ASCII mode. Commands supported in the terminal's ANSI modes are listed in the separate *WY-60 ANSI Personalities* chart accompanying this guide.

For more detailed information on how to take advantage of the terminal's features in your computer programs, order the *WY-60 Programmer's Guide* through your sales representative.

Conventions

The term *native mode* refers to the terminal's normal operating mode. The term *personality* refers to operating modes characteristic of one or more other terminals.

Key functions are described in the text as follows:

- The symbol for the key on the WY-60 ASCII keyboard is shown first, followed by key symbols in parentheses for the other keyboards if they are different. For example,

 **SETUP** (**RESET**, **SYS REQ**, **SELECT**)

identifies **SETUP** on the WY-60 ASCII keyboard, **RESET** on the 316X-Style keyboard, **SYS REQ** on the AT-Style keyboard, and **SELECT** on the Enhanced PC-Style keyboard.

- When a key symbol in the text refers to one of two names on a key on the keyboard, the action of other keys may be implied. For example, **PRINT** assumes the simultaneous pressing of **SHIFT** on the WY-60 ASCII keyboard, whereas **SEND** would mean the same key by itself (unshifted). Similarly, **BREAK** assumes the simultaneous pressing of **CTRL** on the 316X-Style keyboard, because the name appears on the front face of the key.
- The subscript *kpd* identifies keys on the numeric keypad.

Installing the Terminal

Getting Ready

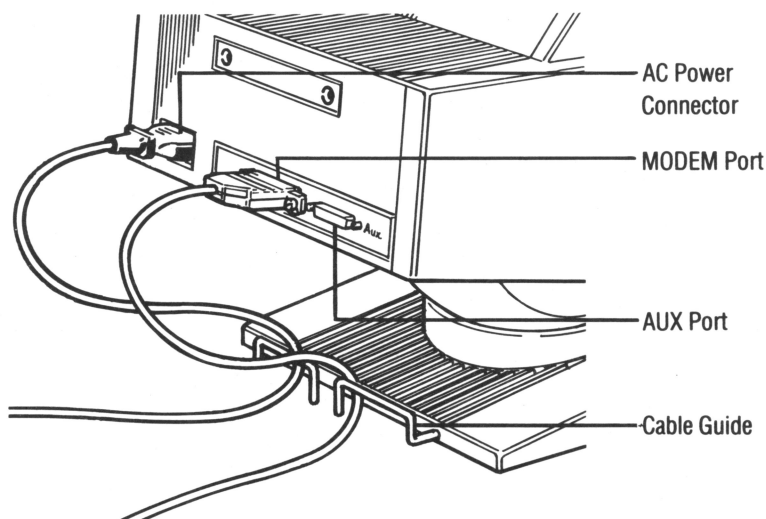
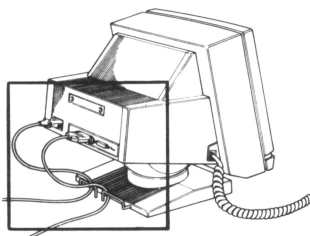
You'll need a shielded serial interface cable (fitted with a male 25-pin connector on the terminal end) to connect the terminal to your computer or modem. If you plan to connect a serial printer directly to the terminal, you'll need a second serial cable. (See Appendix B for connector pin assignments.)

Place the terminal on a flat, hard surface, allowing three inches on all sides for ventilation.

Connecting the Terminal

- 1 Press the front half of the power switch on the right side of the terminal to be sure that the terminal is turned off.
- 2 Plug the keyboard cable into the keyboard socket on the left side of the terminal.
- 3 Thread the serial cable(s) through the cable guide at the back of the terminal base, as shown in the illustration.
- 4 Connect the computer cable to the MODEM port and the printer cable to the AUX port.
- 5 Plug the power cord into the terminal's power connector and into a three-pronged grounded power outlet. (If you use an adapter, be sure to ground the outlet.)

☐ **Note** Make sure your building's voltage (115 in the U.S.) matches the voltage shown on the back of the terminal.



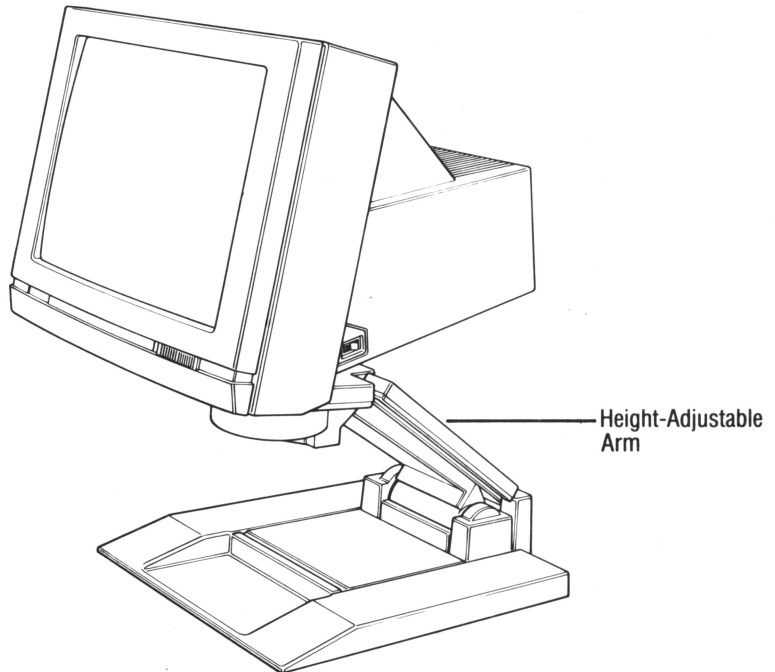
Turning on the Terminal

Press the power switch to turn on the terminal. You'll hear an immediate beep if the terminal has received power, and the screen may flash display patterns as the terminal tests itself. When the cursor appears on the screen, the terminal is ready for operation.

- ☐ **Note** If the bell sounds and an A, C, E, K, W, X, Y, or Z appears at the bottom of the screen, press **SETUP** (**RESET**, **SYS REQ**, **SELECT**) to exit the self-test. If the error codes 0, 1, 9, p, or P appear, call your service representative—the terminal needs to be serviced by a qualified technician.

Adjusting the Terminal

Adjust the screen's brightness with the slideswitch at the right front corner. If you want the keyboard slanted up slightly, turn it over and pull out the hinged foot. A height-adjustable arm is available as an option.



Introduction

This chapter tells how to configure the terminal's operating parameters and redefine the programmable keys in setup mode.

Entering and Leaving Setup Mode

To enter setup mode, press **SHIFT** and **SETUP** simultaneously (**SETUP**, **SHIFT** **SYS REQ**, **SHIFT** **SELECT**). Data on the screen disappears, and the *top setup level* screen appears; the data is restored when the terminal returns to normal operating mode.

- **Caution** Don't enter setup mode while data is being transmitted. The terminal can't receive data from the computer in setup mode.

Top Setup Level

EXIT **SAVE MODES** **SAVE ALL** **DEFAULT ALL** **RESTORE ALL**

TO EXIT SETUP USE ARROWS AND F10 **TO CHANGE PARAMETERS USE F1 – F9**

F1 DISP	F2 GENERL	F3 KEYBRD	F4 COMM	F5 MISC	F6 TABS	F7 A/BACK	F8 F/KEYS	F9 LABELS	F10 EXIT
------------	--------------	--------------	------------	------------	------------	--------------	--------------	--------------	-------------

The top level serves as a directory to the other setup levels and to the alternatives for leaving setup mode.

- The fields at the bottom of the screen name the various setup levels where you can change the terminal's operating parameters.
- The fields at the top of the screen show the options for saving or not saving changes in nonvolatile memory when you return the terminal to the normal operating mode.
- The second line identifies the keys that you press to select the fields and activate their functions.

Leaving Setup Mode

To leave setup mode press the cursor keys to highlight one of the fields at the top of the screen and press **F10**. Table 2-1 explains the function of each field.

Table 2-1 Top Level Exit Functions

Field	Function
EXIT	Returns terminal to normal operating mode without saving parameter changes or definitions.
SAVE MODES	Saves operating parameter changes only and returns terminal to normal operating mode.
SAVE ALL	Saves all changes (operating parameters, tabs, key definitions, answerback message, and function key labels); returns terminal to normal operating mode.
DEFAULT ALL	Restores all settings (operating parameters, tabs, key definitions, answerback message, function key labels) to default values and highlights EXIT field. Default values are <i>not</i> saved unless you select the SAVE ALL option to exit setup mode.
RESTORE ALL	Restores all settings and definitions to values last saved in nonvolatile memory and highlights the EXIT field. Values are saved when the terminal returns to normal operating mode.

Changing the Operating Parameters

To select one of the setup levels named on the bottom line, press the indicated function key.

- The screen for that level appears with the name highlighted.
- The fields in the middle of the screen indicate the current settings for parameters you can change in that level.
- The top line identifies the keys you press to highlight the parameter fields and change the settings. Pressing **F10** always returns you to the top level.

The following tables list the parameters for each level and explain their settings. Default settings are always listed first.

☐ **Note** Explanations of setup parameters apply to the terminal’s native mode. If you select a parameter setting that’s invalid for the current personality, the terminal defaults to a valid setting upon leaving setup mode.

Table 2-2 Display Setup Parameters

Parameter	Explanation
ANSWERBACK CONCEAL OFF ON ¹	The answerback message is Displayed in setup mode Concealed

¹ If you conceal the message, you can’t redisplay it—the message stays concealed until you redefine it. The parameter defaults to off when you redefine the message.

Table 2-2 Display Setup Parameters
Continued

Parameter	Explanation
ANSWERBACK MODE	The answerback message is
OFF	Not sent
ON	Sent to the computer
ATTRIBUTE	Display attributes are
CHAR	Assigned to each character as it is entered
LINE	Active to the end of the line
PAGE	Active to the end of the page
BACKGROUND	The screen displays
DARK	Light characters on a dark background
LIGHT	Dark characters on a light background
COLUMNS	The screen displays
80	80 columns
132	132 columns
Econ-80 ²	80 columns with more pages of memory
CURSOR	The cursor display is a
BLINK BLOCK	Blinking rectangle
STEADY BLOCK	Steady rectangle
BLINK LINE	Blinking underline
STEADY LINE	Steady underline
DISPLAY CURSOR	The cursor is
ON	Visible
OFF	Invisible
LINES	The screen displays
24	24 data lines, status line, and label line
25	25 data lines and status line
42	42 data lines, status line, and label line
43	43 data lines and status line
PAGE LENGTH	The length of a page of display memory is
1 * LINES	Equal to the number of lines selected in the LINES parameter
2 * LINES	Two times the value of the LINES parameter

² When you choose 80 or 132 columns, data is preserved; when you choose economy mode 80 columns, the terminal clears the entire display memory.

Table 2-2 Display Setup Parameters
Continued

Parameter	Explanation
4 * LINES ³	Four times the value of the LINES parameter
*	Equal to the value of the LINES parameter, with a second page containing the rest of the lines remaining in memory
SCRL SPEED	The display scrolls
JUMP	At the rate data is received
SMOOTH-8	Eight lines per second
SMOOTH-4	Four lines per second
SMOOTH-2	Two lines per second
SMOOTH-1	One line per second
SCRN SAVER	If the terminal receives no data for approximately 15 minutes,
ON	The screen blanks until you press a key (no data is lost)
OFF	Screen data displays continuously
STATUS LINE	The screen displays
STANDARD	A status line with time and cursor line and column indicators
EXTENDED	A status line with editing status messages
OFF	No status line

³ Available only in 50 + personality.

Table 2-3 General Setup Parameters

Parameters	Explanation
AUTOSCR	When the cursor moves past the last line of the page,
ON	The data scrolls up one line
OFF	It returns to the top of the same page
COMM MODE	The terminal's communication mode is
FULL DUPLEX	Full duplex
BLOCK	Block
HALF DUPLEX	Half duplex
HALF BLOCK	Half-duplex block
DATA/PRINTER	The terminal communicates with the computer through the
MODEM/AUX	MODEM port (AUX port is printer port)
AUX/MODEM	AUX port (MODEM port is printer port)

Table 2-3 General Setup Parameters
Continued

Parameters	Explanation
END-OF-LINE WRAP	When additional characters are entered at the end of a line,
ON	The cursor wraps to the start of the next line
OFF	Characters at the cursor position are replaced
ENHANCE	In the nonnative terminal personalities, an enhanced set of codes is
ON	Recognized by the terminal
OFF	Not recognized by the terminal
FONT LOAD	When changing personalities or the number of displayed lines, the terminal
ON	Loads the appropriate character set
OFF	Doesn't change the current character set
INIT TABS	When the terminal is turned on, tab stops are
OFF	Cleared
ON	Initialized from nonvolatile memory
MONITOR	The terminal
OFF	Executes escape sequences and control codes
ON	Displays symbols for escape sequences and control codes without acting on them ¹
PERSONALITY ^{2,3}	The terminal can run programs written for the following terminals:
WY-60	Itself (native mode)
WY50 +	WY-50, WY-50+, WY-100
TVI 910 +	TeleVideo 910 and 910 +
TVI 912/920	TeleVideo 912 and 920
TVI 925	TeleVideo 925
TVI 950	TeleVideo 950
TVI 955	TeleVideo 955
PC TERM	PC/XT/AT type
ADDS A2	ADDS Viewpoint A2
ADDS VP60	ADDS Viewpoint 60
HZ 1500	Hazeltine 1500
DG 200	Data General DASHER D100 and D200
DG 210	Data General DASHER D210
ADM-31	Lear Siegler ADM 31, ADM 3A, ADM 5

¹ See WyseWorks ASCII Table for symbols displayed.

² When you select a new terminal personality, the terminal displays the appropriate character set unless the FONT LOAD parameter is set to off.

■ ³ **Caution** The terminal may clear the entire display memory when you change its personality.

Table 2-3 General Setup Parameters
Continued

Parameters	Explanation
IBM 3101-1X	IBM 3101, Model 1X
IBM 3101-2X	IBM 3101, Model 2X
IBM 3161	IBM 3161
WY 75	WY-75
VT 52	Digital Equipment VT52
VT 100	Digital Equipment VT100
RCVD CR	When the terminal receives an ASCII CR, the cursor moves to the beginning of the
CR	Current line
CRLF	Next line
SEND ACK	After executing certain commands, the terminal sends
ON	An ASCII ACK character to the computer
OFF	No acknowledgment
WIDTH CHANGE	When executing a command to change the number of
CLEAR	columns, the terminal
OFF	Doesn't clear the screen ⁴
ON	Clears the screen

⁴ Except when entering or leaving economy 80-column mode

Table 2-4 Keyboard Setup Parameters

Parameter	Explanation
BREAK ¹	The terminal sends a break signal to the MODEM port for
250MS	250 milliseconds
170MS	170 milliseconds
500MS	500 milliseconds
CORNER KEY ²	Pressing the corner key
FUNCT	Together with an alphanumeric key sends an ASCII SOH, the other key's code, and an ASCII CR
HOLD	Freezes the current data on the screen until the key is pressed again
ENTER	ENTER sends the ASCII character for
CR	Carriage return (CR)
CRLF	Carriage return (CR) and linefeed (LF)
TAB	Horizontal tab (HT)

¹ A break can't be sent through the AUX port.

² Key labeled **FUNCT**, **HOLD**, or **SCROLL LOCK**, depending on your keyboard.

Table 2-4 Keyboard Setup Parameters
Continued

Parameter	Explanation
FKEY XMT LIMIT	The terminal sends function key definitions
NONE	As fast as the baud rate allows
60CPS	At a maximum rate of 60 characters per second
150CPS	At a maximum rate of 150 characters per second
KEY REPEAT	When held down for more than half a second, the keys
ON	Repeat
OFF	Don't repeat
KEYCLICK	Each time a key is pressed or repeated;
ON	A muted beep sounds
OFF	No beep sounds
KEYLOCK	When CAPS LOCK is engaged,
CAPS	Alphabetic keys generate only uppercase characters
REV	The action of SHIFT is reversed—shifted alphabetic keys generate lowercase characters, unshifted keys generate uppercase characters
LANGUAGE	Choose the setting that matches your keyboard language.
MARGIN BELL	The terminal's margin bell
OFF	Doesn't ring
ON	Rings when the cursor reaches the column where margin bell is set (default is column 72 in 80-column mode, column 124 in 132-column mode)
RETURN	RETURN sends the ASCII character for
CR	Carriage return (CR)
CRLF	Carriage return (CR) and linefeed (LF)
TAB	Horizontal tab (HT)
WYSEWORD	When Wyseword mode is
OFF	Off, keys send standard key codes
ON	On, specified keys send WordStar-compatible codes
XMT LIMIT	The terminal sends data through the data port
NONE	As fast as the baud rate allows
60CPS	At a maximum rate of 60 characters per second
150CPS	At a maximum rate of 150 characters per second

Table 2-5 COMM Setup Parameters

Parameter	Explanation
AUX BAUD RATE	The AUX port baud rate is
9600	
19200	
110	
134.5	
150	
300	
600	
1200	
1800	
2000	
2400	
3600	
4800	
7200	
AUX DATA/STOP BITS	Through the AUX port, the terminal sends and receives
8/1	8-bit data with one stop bit
7/2	7-bit data with two stop bits
8/2	8-bit data with two stop bits
7/1	7-bit data with one stop bit
AUX PARITY ¹	The terminal sends data to the AUX port with
NONE	No parity bit
ODD	Odd parity
MARK	A high (mark) parity bit
EVEN	Even parity
AUX RCV HANDSHAKE	The terminal controls the receipt of data from a device connected to the AUX port by
DSR	DSR handshaking (raising and lowering the DSR line voltage)
BOTH	Both X-on/X-off and DSR handshaking
NONE	No handshaking protocol
XON/XOFF	X-on/X-off handshaking
AUX XMT HANDSHAKE ²	When sending data to a device connected to the AUX port, the terminal
NONE	Ignores all incoming software handshaking signals
XON/XOFF	Responds to X-on/X-off handshaking

¹ The terminal ignores any incoming parity bits.

² The terminal always responds to DTR handshaking signals through the AUX port.

Table 2-5 COMM Setup Parameters
Continued

Parameter	Explanation
BAUD RATE	The MODEM port baud rate is
9600	
19200	
38400	
50	
75	
110	
134.5	
150	
300	
600	
1200	
1800	
2000	
2400	
4800	
DATA/STOP BITS	Through the MODEM port, the terminal sends and receives
8/1	8-bit data with one stop bit
7/2	7-bit data with two stop bits
8/2	8-bit data with two stop bits
7/1	7-bit data with one stop bit
PARITY ³	The terminal sends data to the MODEM port with
NONE	No parity bit
ODD	Odd parity
MARK	A high (mark) parity bit
EVEN	Even parity
RCV HNDSHAKE	The terminal controls receipt of data from a device connected to the MODEM port by
NONE	No handshaking protocol
XON/XOFF	X-on/X-off handshaking
DTR	DTR handshaking (raising and lowering the DTR line voltage)
BOTH	Both X-on/X-off and DTR handshaking signals

³ The terminal ignores any incoming parity bits.

Table 2-5 COMM Setup Parameters
Continued

Parameter	Explanation
XMT HANDSHAKE	When sending data to a device connected to the MODEM port, the terminal
NONE	Ignores all incoming software handshaking signals
XON/XOFF	Responds to X-on/X-off handshaking
XPC HANDSHAKE	When the terminal is in PC Term mode,
OFF	The receive handshaking protocol depends on the RCV HANDSHAKE parameter setting of the port configured as the data port
ON	Special codes (Hex 65 and Hex 67) are sent in place of X-on/X-off handshaking protocol for the data port

Table 2-6 Miscellaneous Setup Parameters (IBM Personalities)¹

Parameter	Explanation
ENTER	Pressing ENTER sends the code defined by the
RETURN	RETURN parameter (in this setup level)
SEND	SEND parameter
INSERT ²	Pressing INSERT
MODE	Turns on insert mode
SPACE	Inserts a space character at the cursor position (cursor doesn't move)
PRINT ²	Pressing PRINT sends to the printer the contents of the
VIEWPORT	Viewport
SCREEN	Screen
PRINT EOL ²	When the terminal executes print viewport, print screen, or print page commands,
ON	The line terminator defined by the LINE END parameter is sent to the printer
OFF	No line terminator is sent
PRINT LINE END ²	When the terminal sends data to the printer, the line terminator is an ASCII character for
CRLF	Carriage return (CR) and linefeed (LF)
CR	Carriage return (CR)
PRINT NULL ²	When sending data to the printer, the terminal
ON	Doesn't send null characters
OFF	Converts null characters to space characters

¹ Parameters displayed when the terminal is in an IBM personality.

² IBM 3161 only.

Table 2-6 Miscellaneous Setup Parameters (IBM Personalities)¹
Continued

Parameter	Explanation
RETURN	Pressing RETURN moves the cursor
FIELD	To the next unprotected field
RETURN	As defined by the RETURN parameter in the keyboard setup level (CR or CR and LF)
SEND ³	Pressing SEND sends
PAGE	The entire page
LINE	The entire cursor line
SEND NULL ⁴	When sending data to the computer, the terminal
ON	Doesn't send null characters
OFF	Converts null characters to space characters
TAB ²	In tab operations, the cursor moves to
FIELD	Start of field, ignoring column tab stops
COLUMN	Column tab stops
TURNAROUND ⁴	When the terminal sends data to the computer, the line terminator is an ASCII
CR	CR character
ETX	ETX character
XOFF	XOFF character
EOT	EOT character

³ IBM 3101-2X and IBM 3161 only

⁴ IBM 3101-2X and IBM 3161 only. In 3101-2X mode, this parameter also applies to data sent to the printer.

Table 2-7 Miscellaneous Setup Parameters (Other Personalities)¹

Parameter	Explanation
AUTOPAGE	When the cursor reaches the top or bottom of the page,
OFF	It wraps on the page or the data scrolls, depending on the AUTOSCRL parameter setting
ON	A new page of memory moves onto the screen
BLOCK END ²	When the terminal sends a block of data to the computer, the
US/CR	Line terminator is an ASCII US character, block terminator is an ASCII CR character
CRLF/ETX	Line terminators are ASCII CR and LF characters, the block terminator is an ASCII ETX character

¹ Parameters displayed when the terminal is in a non-IBM personality.

² The BLOCK END, VP60 BLK END, and TURNAROUND parameter settings all change when any one of them is changed.

Table 2-7 Miscellaneous Setup Parameters (Other Personalities)¹
Continued

Parameter	Explanation
LABELS	Function key labels are
OFF	Not displayed
ON	Displayed on the bottom line of the screen
PAGE EDIT	The terminal's editing functions affect the
OFF	Cursor line
ON	Entire page
SAVE LABELS	Function key labels are
OFF	Cleared when you turn off the terminal
ON	Saved in nonvolatile memory (when the SAVE ALL option is selected on exit from setup mode)
TEST	The terminal is ready for
OFF	Normal operation
ON	A manufacturing self-test (don't select this value)
TVI 955 ATTRIBUTE	In TVI 955 mode, display attributes are
NO SPACE	Hidden
SPACE	Nonhidden
VP60 BLK END ²	When the terminal sends a block of data to the computer in ADDS VP60 mode,
NONE	No line or block terminators are sent
CR,EOT	The line and block terminators are ASCII CR and EOT characters
CR,ETX	The line and block terminators are ASCII CR and ETX characters
CR	The line and block terminators are ASCII CR characters
WPRT INTENSITY	Write-protected characters appear
DIM	Dim
NORMAL	Normal
INVISIBLE	Invisible
WPRT REVERSE	Write-protected characters appear as
OFF	Light characters on a dark background
ON	Dark characters on a light background
WPRT UNDERLINE	Write-protected characters are
OFF	Not underlined
ON	Underlined

Defining Tab Stops

When the INIT TABS parameter (Table 2-3) is set to *off*, no tab stops are set when you turn on the terminal. When the INIT TABS parameter is set to *on*, the terminal activates the tab stops last saved in nonvolatile memory—by default these are positioned every eight columns across the screen, starting at column nine.

You can clear and set tab stops from the tabs setup level (**F6**) and save the changes in nonvolatile memory by choosing the SAVE ALL option when you exit setup mode.

Tabs Setup Level

On the tabs setup level screen, the terminal's current tab stops are indicated by uppercase T's displayed along a line of periods that mark each column position.

- A tab stop in columns 1 through 78 is shown as a T in the upper line of periods.
- A tab stop in columns 79 through 132 is shown as a T in the lower line of periods.

You can easily determine where tabs are set by moving the cursor across the line and reading the column number displayed in the second instruction line at the top of the screen.

Clear and set tabs anywhere on the line, as follows:

- To move the cursor across the line, press **→** (**→**) or **←** (**←**)
- To either clear or set (toggle) an individual tab stop at the cursor position, press **SPACEBAR**
- To clear all tabs, press **HOME**
- To restore all default tabs, press **BACKSPACE**

Defining an Answerback Message

In the answerback setup level (**F7**) you can program a message of up to 20 characters to identify the terminal to the computer. Enter the message at the cursor position. Correct errors by pressing **BACKSPACE** to delete characters or **HOME** to clear the message.

The answerback message shares approximately 350 bytes of nonvolatile memory with key redefinitions and function key labels. To save the message in nonvolatile memory, exit setup mode with the SAVE ALL option.

The message is sent to the computer when the terminal receives an ASCII ENQ code (CTRL E) and

- The ANSWERBACK MODE parameter (Table 2-2) is set to *on*
- The SEND ACK parameter (Table 2-3) is set to *on*

If the ANSWERBACK CONCEAL parameter (Table 2-2) is set to *on*, the word *CONCEALED* displays in place of the message. The message can't be displayed again until you redefine it.

Redefining the Keys

You can redefine the function keys and editing keys, both shifted and unshifted, to send a unique character string of up to 64 characters. You can also redefine a key's *direction*, which determines where the terminal sends the key definition.

F/KEYS Setup Level

To redefine a key, press **F8** to display the keys setup level. Refer to the functions indicated at the top of the screen and follow these steps:

- 1 Select the key to be redefined by pressing that key together with **CTRL**. This highlights the key's direction and definition fields.
- 2 Press **▲** (**↑**) or **▼** (**↓**) to highlight the unshifted or shifted key definition field.
- 3 Enter the key definition (up to 64 characters) at the cursor position. Correct errors by pressing **◀** (**←**) to delete characters or **HOME** to clear the definition.
- 4 If you want to change the key's direction, press **ENTER** until your choice appears: *remote*, *local*, or *normal*.
 - **Remote**
Data is sent to the computer only, regardless of the terminal's communication mode. (Until redefined, the direction of all the programmable keys is remote.)
 - **Local**
Data is sent to the terminal only, regardless of the terminal's communication mode.
 - **Normal**
Data is sent to the computer and/or the terminal, depending on the terminal's communication mode.

Memory Space

To save key definitions in nonvolatile memory, choose the SAVE ALL option to exit setup mode. Key definitions share a total of approximately 350 bytes of nonvolatile memory space with the answerback message and function key labels. If you enter more than 64 characters for any one key or reach the 350-character overall limit, you'll hear a warning beep and won't be able to enter more characters.

- ☐ **Note** If you connect another keyboard to the terminal after you've saved key definitions in nonvolatile memory, clear the definitions to their default values.

Defining the Function Key Labels

You can define labels for the function keys (unshifted and shifted) and display them on the label line at the bottom of the screen. They share approximately 350 bytes of nonvolatile memory space with the answerback message and key definitions.

Labels Setup Level

To define a function key label, press **F9** to display the labels setup level and follow these steps:

- 1 Select the key you want to label by pressing that key together with **CTRL**.
- 2 Press **▲** (**↑**) or **▼** (**↓**) to highlight the shifted or unshifted key field.
- 3 Enter the label (up to seven characters) at the cursor position. Correct errors by pressing **◀** (**←**) to delete characters or **HOME** to clear the label.

To display the labels, set the LABELS parameter (Table 2-7) to *on*.

To save the labels in nonvolatile memory, set the SAVE LABELS parameter (Table 2-7) to *on* and exit setup mode with the SAVE ALL option.

Keyboard Functions

The four U.S. keyboards supported by the terminal are illustrated in Appendix B, which lists the codes sent by the keys in each of the terminal's ASCII personalities. Table D-1 in Appendix D lists the key sequences that control the terminal locally.

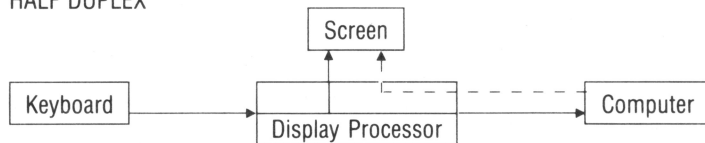
When Wyseword mode is on (and your computer is loaded with the WordStar word-processing program), specified keys send the WordStar-compatible commands listed in Appendix C.

Key functions for the terminal's calculator and other desktop accessories are described in Chapter 4, "WyseWorks."

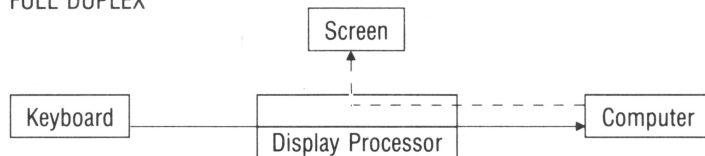
Communication Modes

Four modes of communication are possible between the terminal and an attached computer: full duplex, half duplex, block, and half-duplex block. The terminal handles data in these communication modes as illustrated here.

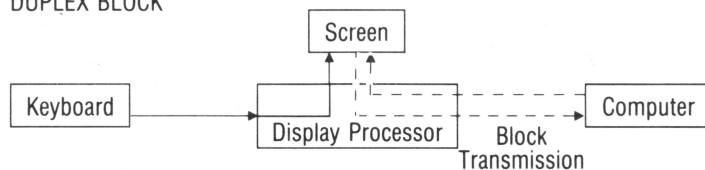
HALF DUPLEX



FULL DUPLEX



BLOCK/HALF DUPLEX BLOCK



Legend:

—————> From Keyboard <----- To/From Computer

Printing

The terminal is set up to communicate with a printer through the AUX port. If you choose to connect the printer to the MODEM port instead, reverse the functions of the ports by changing the DATA/PRINTER parameter in setup mode. (Appendix A gives the connector pin assignments for both ports.)

To print data coming from the computer,

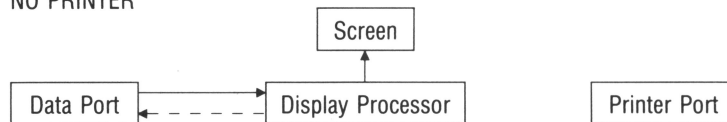
- Make sure the printer port is configured for transmit handshaking that matches the requirements of your printer.
- Press **CTRL** **PRINT** (**PRINT LINE** , **SHIFT** **SYS REQ**) to turn on auxiliary print mode.

To print a page of data when you have a serial printer connected directly to the terminal,

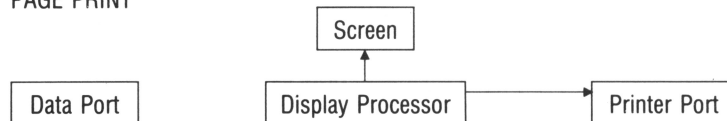
- Press **SHIFT** **BREAK** (**BLOCK**) to put the terminal in block mode.
 - Press **PRINT** (**PRT SC** , **PRINT SCREEN**) to send the formatted page to the printer.
- ☐ **Note** Because data is sent from home through the cursor position, the cursor must be at the bottom of the page if the entire page is to print.
- When you're finished printing, press **SHIFT** **BREAK** (**BLOCK**) again to take the terminal out of block mode.

The following illustration shows how the terminal handles data through the printer port.

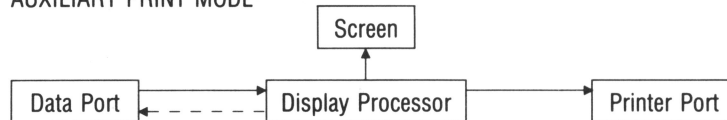
NO PRINTER



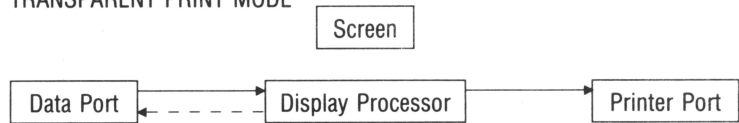
PAGE PRINT



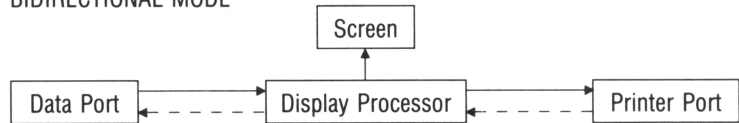
AUXILIARY PRINT MODE



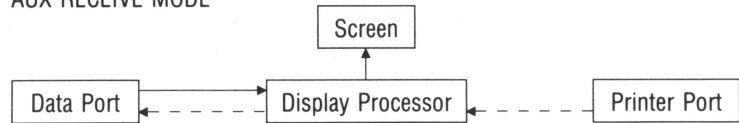
TRANSPARENT PRINT MODE



BIDIRECTIONAL MODE



AUX RECEIVE MODE

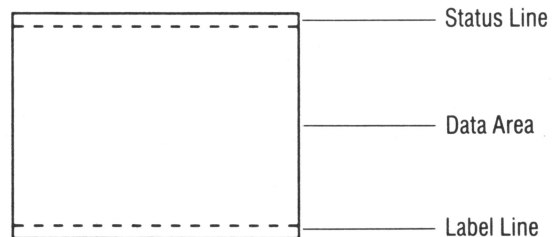


Legend:

—————> From Data Port <----- From Display Processor/Printer Port

Screen Areas

The screen has three display areas: the *status line*, the *data area*, and the *label line*.



Unless you turn off the status line display in setup mode or with an escape sequence, the top line of the screen displays terminal or computer status messages.

The bottom line of the screen can display function key labels or a single longer message, or it can be an extra data line.

Introducing WyseWorks

WyseWorks is a set of four desktop accessories:

- A calculator with a paper tape feature that displays and prints the results of your calculations
- An alarm clock with two alarm settings and reminder messages
- A calendar that displays three months at a glance
- An ASCII table displaying numerical equivalents and monitor mode symbols for 128 U.S. ASCII characters

You have access to these accessories at any time except when the terminal is in setup mode. They are displayed on the top eight lines of the screen, which temporarily defaults to 80 columns. (Overlaid data and the previous screen width are restored when you exit WyseWorks.)

Basic WyseWorks Controls

Press **CTRL** **CAPS LOCK** to display the WyseWorks entry screen, where the fields at the bottom of the screen display the name of each accessory. Follow these steps:

- 1 To select an accessory, press the indicated function key. The accessory will appear in the box at the top of the screen.
- 2 After you've selected an accessory, follow the instructions on the screen, referring to the explanations in this chapter.
- 3 When you're ready to leave an accessory,
 - Press **CTRL** **CAPS LOCK** to exit WyseWorks
 - Press **F10** to return to the entry screen to select another accessory

Calculator

The calculator works very much like a handheld calculator, with the keyboard acting as the numeric keypad and the screen displaying the results of your calculations. A paper tape feature allows you to display five entries at a time and send them to a printer connected directly to the terminal.

Calculator Display

In the box at the top of the screen the display shows

- A keypad that highlights the numbers and functions as you enter them on the keyboard
- Five memory locations, with a pointer (<M) indicating the active memory where you can store and recall your current calculation.

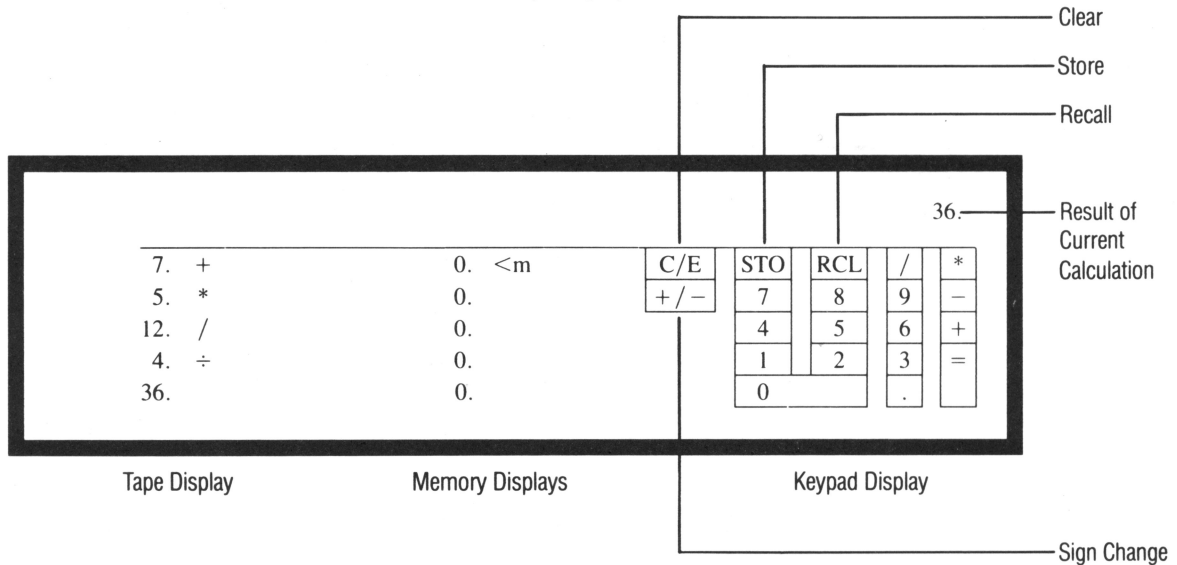
The two fields at the bottom of the screen indicate the function keys that turn the paper tape feature's display and print functions on or off. The current status (on or off) is shown in each field.

- When the tape is *on*, each keyboard entry appears at the left of the calculator display (see illustration), scrolling up like a paper tape. When more than five entries are made, the top entry scrolls off.
- When the printer is also *on*, each successive bottom line of the tape is sent to the port configured as the printer port.

The following illustration shows the calculator's display of the calculation

$$[(7 + 5) \times 12] \div 4$$

when the tape display is on.



☐ **Note** The keypad display shown in the illustration corresponds to keys on the WY-60 ASCII keyboard. The display reflects the keys that perform calculator functions on the keyboard installed on the terminal.

Calculator Operations

The calculator has an absolute numerical range of ± 0.001 to 9,999,999,999.9999.

Paper Tape Feature

Both the tape display and printer are *off* when you turn on the terminal and first enter WyseWorks. To turn on the tape display, press **F1**. To activate the printer, press **F2**. Observe the following precautions:

- Turn on the tape *before* starting your calculation—turning it on clears existing entries.
- Don't turn the printer on unless the tape display is also on and a printer is connected directly to the terminal.

Until you turn off the terminal, the status of the tape display and printer will remain as you last set them.

Keyboard Controls

Table 4-1 summarizes the calculator operations that you can perform from the keyboard and lists the keys that control them. The corresponding keypad display is highlighted as you make each entry at the keyboard.

Table 4-1 Calculator Controls

Operation	Keyboard Style				Display Highlight
	WY-60 ASCII	IBM 316X	AT ¹	Enhanced PC ¹	
Tape on/off	F1	F1	F1	F1	F1 = TAPE ON F1 = TAPE OFF
Printer port on/off	F2	F2	F2	F2	F2 = PRINTER ON F2 = PRINTER OFF
Enter number	0-9 ²	0-9 ²	0-9 ²	0-9 ²	0-9
Enter decimal point	.2	.2	.2	.2	.
Add	, ²	, ²	+ ²	+ ²	+
Subtract	- ²	- ²	- ²	- ²	-
Multiply	REPL	SELECT	* ²	* ²	*
Divide	CLR LINE	SEND LINE	SCROLL LOCK	/ ²	/

¹ On these keyboards, the keys perform the indicated functions regardless of NUM LOCK status.

² These keys are found on the numeric keypad.

Table 4-1 Calculator Controls
Continued

Operation	Keyboard Style				Display Highlight
	WY-60 ASCII	IBM 316X	AT ¹	Enhanced PC ¹	
Produce result	ENTER	ENTER	SYS REQ	ENTER ²	=
Reciprocal	CLR LINE and ENTER	SEND LINE and ENTER	SCROLL LOCK and SYS REQ	/ ² and ENTER ²	/ =
Square	REPL and ENTER	SELECT and ENTER	* ² and SYS REQ	* ² and ENTER ²	* =
Select memory	▲ or ▼	↑ or ↓	SHIFT 8 ² or SHIFT 2 ²	↑ or ↓	<m
Store displayed number in memory (at pointer)	INS CHAR	JUMP	ESC	HOME	STO
Recall memory contents (from memory at pointer)	DEL CHAR	PAGE	NUM LOCK	PAGE UP	RCL
Clear entry	DEL	CLEAR	← ³	NUM LOCK	C/E
Clear calculator	DEL ⁴	CLEAR ⁴	← ^{3,4}	NUM LOCK ⁴	C/E
Clear memory (at pointer)	SHIFT DEL	SHIFT CLEAR	SHIFT ← ³	SHIFT NUM LOCK	C/E
Clear all memories	SHIFT DEL ⁴	SHIFT CLEAR ⁴	SHIFT ← ^{3,4}	SHIFT NUM LOCK ⁴	C/E
Change sign of displayed number	SEND	ERASE EOF	\	PAGE DOWN	+ / -

³ Backspace key.

⁴ Press key(s) twice in succession.

Error Messages

If your calculation exceeds 14 digits or if a number has been divided by zero, an error message appears on the top line of the screen (the status line):

****Number too large****

****Division by zero****

If this happens, clear the calculation and recalculate.

Alarm Clock

In the alarm clock accessory you can set two alarm times and enter two 20-character reminder messages. At the set time, the alarm sounds for 30 seconds, and any reminder message is simultaneously displayed on the status line.

- ☐ **Note** The alarm sounds only during normal terminal operation, not while the terminal is in WyseWorks or setup mode.

Alarm Clock Display

The alarm clock display shows

- The current time according to the terminal's clock (default 8:00 a.m.)
- Two alarm setting lines—Alarm 1 and Alarm 2—each with a time field (default 12:00 a.m.), a 20-character message field, and an on/off indicator field

Setting the Alarm

Position the cursor in the appropriate fields:

- 1 Press the cursor keys or **TAB** or **BACKSPACE** to go from field to field. Pressing **RETURN** (**ENTER**) moves the cursor to the start of a line.
 - 2 To reset the terminal's clock, enter the current time (12-hour format, including a.m. or p.m.) in the time field.
 - 3 Enter the desired alarm time in the Alarm 1 or Alarm 2 time field and the desired message in the message field.
 - 4 In the on/off indicator field, press any key to set the alarm bell to *on*.
- ☐ **Note** After the alarm sounds, the indicator defaults to *off*, but the time setting and message remain until you redefine them or turn off the terminal.

Turning Off the Alarm





To turn off the alarm, press **SETUP** (**RESET**, **SYS REQ**, **SELECT**). Before you can resume normal operation or reenter WyseWorks you must press **SETUP** (**RESET**, **SYS REQ**, **SELECT**) again to clear the message displayed on the status line.

Calendar





The calendar displays three months at a time, defaulting to the factory setting when the terminal is turned on. (If more than five lines are required to include all the days, the leftover days of the month won't appear.)

Calendar Controls

To display other months in the year, press

-  () for earlier months
-  () for later months

To display the same months in another year, press



-  () for earlier years
-  () for later years

ASCII Table

The two-page ASCII table displays the hexadecimal codes for the U.S. ASCII table (64 codes per page), showing the monitor mode symbols for the current terminal personality.

The status line displays the corresponding ASCII character or control code, as well as binary, decimal, and octal equivalents, for the hexadecimal code that's highlighted in the table.

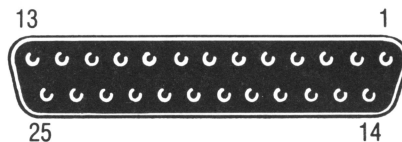
ASCII Table Controls

Press the cursor keys to highlight the codes. Press  () to highlight the code at the start of a line.

Press  to display the alternate page.

A Connector Pin Assignments

The MODEM and AUX port pin numbers are shown below.



**Table A-1 MODEM Port Connector
Pin Assignments (DTE)**

Pin	Signal	Mnemonic	Direction
1	Shield Ground	PGND	
2*	Transmit Data	TXD	Out
3*	Receive Data	RXD	In
4	Request to Send	RTS	Out
5‡	Clear to Send	CTS	In
6‡	Data Set Ready	DSR	In
7*	Signal Ground	SGND	
8‡	Data Carrier Detect	DCD	In
20*	Data Terminal Ready	DTR	Out

* Typical requirement.

‡ Modem protocol. We recommend you leave it disconnected. If pin 5 is low, the terminal won't transmit any data. If pin 8 is low, the terminal won't receive any data.

Table A-2 Typical Modem Pin Assignments

Terminal (DTE)	Hayes Smartmodem 1200 (DCE)
1	1
2	2
3	3
7	7
20	20

We recommend that pins 6 and 8 be disconnected, as they are modem protocols that may lock up the terminal.

☐ **Note** Hayes Smartmodem 1200 front panel switch settings are DUDUDDUD.

Table A-3 AUX Port Connector Pin Assignments (DCE)

Pin	Signal	Mnemonic	Direction
1	Shield Ground	PGND	
2*	Transmit Data	TXD	In
3*	Receive Data	RXD	Out
6	Data Set Ready	DSR	Out
7*	Signal Ground	SGND	
20*	Data Terminal Ready	DTR	In

* Typical configuration

Introduction

This appendix lists the key codes for the terminal's ASCII personalities. (Key codes for ANSI personalities are in the separate document, *WY-60 ANSI Personalities*.)

Tables B-1 through B-4 list ASCII codes for each of the four keyboards available for the terminal.

- The tables include codes for all personalities *except* PC Term, in which the keys send scan codes, not ASCII characters.
- Codes are given for editing and special keys only. Alphanumeric keys send the standard ASCII codes (see WyseWorks ASCII Table).

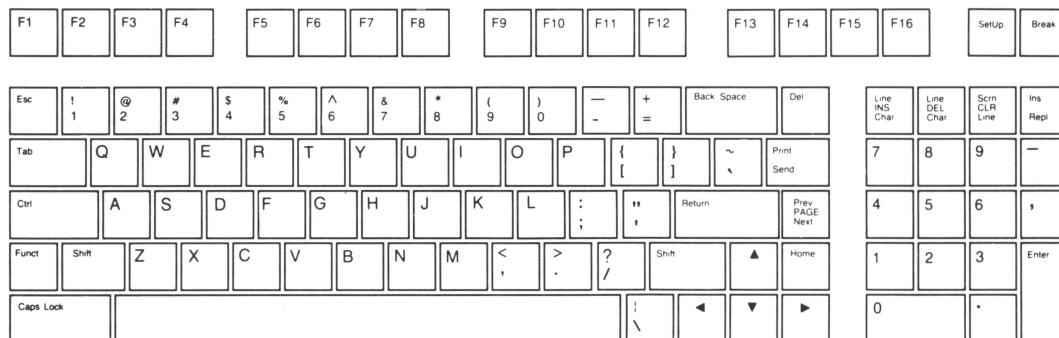
Table B-5 summarizes the hexadecimal values of the scan codes sent by the keys on all keyboards when the terminal is in the PC Term personality—each key sends one scan code when pressed (the *down* code) and another code when released (the *up* code).

- The table gives the codes for the editing and special keys only.
- Scan codes for the alphanumeric and function keys are shown on the AT-Style and Enhanced PC-Style keyboard illustrations. Only the down codes are shown—the high bit is set when the key is released. (The same codes are sent by the alphanumeric and function keys on the other keyboards when the terminal is in the PC Term personality.)

Table B-6 lists function key default codes for all keyboards and all ASCII personalities except PC Term.

ASCII Codes

Table B-1 Editing and Special Key Codes—WY-60 ASCII Keyboard



Key	Native ¹ Code	Hex. Value	ADDS VP 60	ADDS VP A2	DG 200/DG 210 Unshifted	DG 200/DG 210 Shifted	IBM	HZ-1500
BACKSPACE	CTRL H	08	CTRL H	CTRL H	CTRL Y	CTRL Y	CTRL H	CTRL H
CLR LINE	ESC T	1B 54	ESC K	ESC K	RS ^		ESC I	~ CTRL O
CLR SCRN	ESC Y	1B 59	ESC k	ESC k		RS Z	ESC K	~ CTRL X
▼	CTRL J ²	0A	CTRL J	CTRL J	CTRL Z	RS CTRL Z	ESC B	~ CTRL K
◀	CTRL H	08	CTRL U	CTRL U	CTRL Y	RS CTRL Y	ESC D	CTRL H
▶	CTRL L	0C	CTRL F	CTRL F	CTRL X	RS CTRL X	ESC C	CTRL P
▲ ³	CTRL K	0B	CTRL Z	CTRL Z	CTRL W	RS CTRL W	ESC A	~ CTRL L
DEL	DEL	7F	DEL	DEL	DEL		DEL	DEL
DEL CHAR	ESC W	1B 57	ESC E	ESC W	RS]		ESC Q ⁴	
DEL LINE	ESC R	1B 52	ESC I	ESC I		RS Y	ESC O ⁴	
ENTER ⁵	CTRL M	0D	CTRL M	CTRL M	CTRL M	CTRL M	CTRL M	CTRL M
	or CTRL M	0D, 0A	or CTRL M	or CTRL M	or CTRL M	or CTRL M	or CTRL M	or CTRL M
	CTRL J		CTRL J	CTRL J	CTRL J	CTRL J	CTRL J	CTRL J
	or CTRL I	09	or CTRL I	or CTRL I	or CTRL I	or CTRL I	or CTRL I	or CTRL I
							or ⁶	
ESC	CTRL [	1B	CTRL [	CTRL [	CTRL [	CTRL [	CTRL [	CTRL [
HOME	CTRL ^	1E	CTRL A	CTRL A	CTRL H		ESC H	~ CTRL R

¹ These codes also recognized in WY-50 +, ADM 31, and TeleVideo 910/920/925/950/955 modes. Unless otherwise noted, shifted keys send the same code as unshifted.

² CTRL V if the terminal is in TeleVideo 925, 950, or 955 mode.

³ Shifted key sends ESC j in TeleVideo 925, 950, or 955 mode.

⁴ IBM 3101-2X and IBM 3161 modes only.

⁵ Code depends on selection in setup mode. Shifted key sends no code (toggles keyclick).

⁶ Or IBM send code as defined.

Table B-1 Editing and Special Key Codes—WY-60 ASCII Keyboard, Continued

Key	Native ¹ Code	Hex. Value	ADDS VP 60	ADDS VP A2	DG 200/DG 210 Unshifted	DG 200/DG 210 Shifted	IBM	HZ-1500
SHIFT HOME	ESC {	1B 78	CTRL A	CTRL A		RS CTRL H	ESC H	~ CTRL R
INS ⁷	ESC q	1B 71	ESC f	ESC q		RS [	ESC L	CTRL U
INS CHAR	ESC Q	1B 51	ESC F	ESC Q	RS \		ESC P ⁴	
INS LINE	ESC E	1B 45	ESC M	ESC M		RS X	ESC N ⁴	~ CTRL Z
PAGE NEXT	ESC K	1B 45	ESC J	ESC J	CTRL M			
PAGE PREV	ESC J	1B 4A	ESC J	ESC J				
PRINT	ESC P	1B 50	(local) ⁸	ESC P		(local) ⁹	(local) ⁹	CTRL F
REPL	ESC r	1B 72	ESC F	ESC r	RS _		ESC J	CTRL D
RETURN ¹⁰	CTRL M	0D		CTRL M	CTRL J	RS CTRL Q	CTRL M	CTRL M
	or CTRL M	0D, 0A		or CTRL M			or CTRL M	or CTRL M
	CTRL J			CTRL J			CTRL J	CTRL J
	or CTRL I	09						
SEND	ESC 7	1B 37	(local) ¹¹	ESC 7	(local) ⁸		ESC 8 ¹² or ESC ! 8 ¹²	~ 7
TAB	CTRL I	09	CTRL I	CTRL I	CTRL I		CTRL I	CTRL I
SHIFT TAB	ESC I	1B 49	ESC O	ESC O			ESC 2	

⁷ In IBM 3101-2X mode only, CTRL INS toggles insert mode.

⁸ Prints unprotected.

⁹ Prints all.

¹⁰ Code depends on selection in setup mode.

¹¹ Sends data to computer.

¹² IBM 3161 mode only—code depends on selection in setup mode.

Table B-2 Editing and Special Key Codes—IBM 316X-Style Keyboard

Esc	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	Print Trace	Print Line PrMsg	Hold Break	F13	F14	F15	F16		
~ ` 1	" 2	# 3	\$ 4	% 5	^ 6	& 7	* 8	(9	) 0	- _	= +	←Backspace LineDraw	Insert InsLn	Home DEL	Clear ErLn	Jump AltCsr	Page Msg	Send Ln SnMsg	Select Setup	
Tab →	Q	W	E	R	T	Y	U	I	O	P	{ [}]	⏏ \	Delete DelLn	←Tab	Erase EOF ErEOP	7 Super	8 + ↑	9 - ↓	Block	
CapsLock	A	S	D	F	G	H	J	K	L	; ,	" '	↵Return LF				4 Sub	5 + ↑	6 - ↓	AltChr		
⇧Shift	Z	X	C	V	B	N	M	< ,	> .	? /	⇧Shift					↑ Up	1 PA1	2 PA2	3 PA3	Enter	
Ctrl	Reset Cancel											Ctrl	Send	← Left	↓ Down	→ Right	0	▶	◀	▲	▼

Table B-2 Editing and Special Key Codes—IBM 316X-Style Keyboard, Continued

Key	Native ¹ Code	Hex. Value	ADDS VP 60	ADDS VP A2	DG 200/DG 210 Unshifted	DG 200/DG 210 Shifted	IBM	HZ-1500
← BACKSPACE	CTRL H	08	CTRL H	CTRL H	CTRL Y	CTRL Y	CTRL H	CTRL H
CLEAR	(local) ²		(local) ²	(local) ²	(local) ²		ESC L	(local) ²
↓ or LF	CTRL J ³	0A	CTRL J	CTRL J	CTRL Z	RS CTRL Z	ESC B	~ CTRL K
←	CTRL H	08	CTRL U	CTRL U	CTRL Y	RS CTRL Y	ESC D	CTRL H
→	CTRL L	0C	CTRL F	CTRL F	CTRL X	RS CTRL X	ESC C	CTRL P
↑ ⁴	CTRL K	0B	CTRL Z	CTRL Z	CTRL W	RS CTRL W	ESC A	~ CTRL L
DEL	DEL	7F	DEL	DEL	DEL		DEL	DEL
DELETE	ESC W	1B 57	ESC E	ESC W	RS]		ESC Q ⁵	
DEL LN	ESC R	1B 52	ESC I	ESC I	RS Y		ESC O ⁵	
ENTER ⁶	CTRL M	0D	CTRL M	CTRL M	CTRL M	CTRL M	CTRL M	CTRL M
	or CTRL M	0D, 0A	or CTRL M	or CTRL M	or CTRL M	or CTRL M	or CTRL M	or CTRL M
	CTRL J		CTRL J	CTRL J	CTRL J	CTRL J	CTRL J	CTRL J
	or CTRL I	09	or CTRL I	or CTRL I	or CTRL I	or CTRL I	or CTRL I	or CTRL I
							or ⁷	
ERASE EOF	ESC T	1B 54	ESC K	ESC K	RS ^		ESC I ⁵	~ CTRL O
ER EOP	ESC Y	1B 59	ESC k	ESC k	RS Z		ESC J	~ CTRL X
ER INP			CTRL L	CTRL L			ESC K	~ CTRL \
ESC	CTRL [	1B	CTRL [	CTRL [	CTRL [	CTRL [	CTRL [	CTRL [
HOME	CTRL ^	1E	CTRL A	CTRL A	CTRL H		ESC H	~ CTRL R
SHIFT HOME	ESC {	1B 78	CTRL A	CTRL A		RS CTRL H	ESC H	~ CTRL R
INSERT	ESC q	1B 71	ESC f	ESC q	RS [		ESC P ⁵	CTRL U
SHIFT INSERT	ESC r	1B 72	ESC f	ESC r		RS _	ESC P	CTRL D
INS LINE	ESC E	1B 45	ESC M	ESC M		RS X	ESC N ⁵	~ CTRL Z
PAGE	ESC K	1B 45	ESC J	ESC J				
SHIFT PAGE	ESC J	1B 4A	ESC J	ESC J				
PRINT	ESC P	1B 50	(local) ⁸	ESC P		(local) ⁹	(local) ⁹	CTRL F
RETURN ¹⁰	CTRL M	0D		CTRL M	CTRL J	CTRL M	CTRL M	CTRL M
	or CTRL M	0D 0A		or CTRL M			or CTRL M	or CTRL M
	CTRL J			CTRL J			CTRL J	CTRL J
	or CTRL I	09						

1 These codes are also recognized in WY-50 +, ADM 31, and TeleVideo 910/920/925/950/955 modes. Unless otherwise noted, shifted keys send the same code as unshifted.

2 Clears page to nulls, turning off protect and write-protect modes.

3 CTRL V if the terminal is in TeleVideo 925, 950, or 955 mode.

4 Shifted key sends ESC j in TeleVideo 925, 950, or 955 mode.

5 IBM 3101-2X and IBM 3161 modes only.

6 Code depends on selection in setup mode. Shifted key sends no code (toggles keyclick).

7 Or IBM send code as defined.

8 Prints unprotected.

9 Prints all.

10 Code depends on selection in setup mode.

Table B-2 Editing and Special Key Codes—IBM 316X-Style Keyboard, Continued

Key	Native ¹ Code	Hex. Value	ADDS VP 60	ADDS VP A2	DG 200/DG 210 Unshifted Shifted	IBM	HZ-1500
SEND	ESC 7	1B 37	(local) ¹¹	ESC 7	(local) ⁸	ESC 8 ¹² or ESC ! 8 ¹²	~7
TAB → ← TAB	CTRL I ESC I	09 1B 49	CTRL I ESC O	CTRL I ESC O	CTRL I	CTRL I ESC 2 ESC ! 8 ¹² or ESC 8 ¹²	CTRL I
SEND LINE	ESC 6					ESC SPACE 8 ESC " A ¹³	
SN MSG JUMP	ESC S						

11 Sends data to computer.
12 IBM 3161 mode only—code depends on selection in setup mode.
13 IBM 3161 mode only.

Table B-3 Editing and Special Key Codes—AT-Style Keyboard¹

																		Caps Lock Num Lock Scroll Lock							
3B F1	3C F2	29 ~ `	02 !	03 @	04 #	05 \$	06 %	07 ^	08 &	09 *	0A (	0B)	0C -	0D =	2B \ |	←	Esc	Num Lock	Scroll Lock Break	Sys Req				
3D F3	3E F4	10 Q	11 W	12 E	13 R	14 T	15 Y	16 U	17 I	18 O	19 P	1A [	1B]								7 Home	8 ↑	9 Pg Up	PrtSc *
3F F5	40 F6	Ctrl	1E A	1F S	20 D	21 F	22 G	23 H	24 J	25 K	26 L	27 ; :	28 ' "	Enter ↵								4 +	5	6 →	-
41 F7	42 F8	⇧ Shift	2C Z	2D X	2E C	2F V	30 B	31 N	32 M	33 ,	34 . -	35 / _	⇧ Shift								1 End	2 ↓	3 Pg Dn	+	
43 F9	44 F10	Alt												Caps Lock							0 Ins	· Del			

Table B-3 Editing and Special Key Codes—AT-Style Keyboard, Continued

Key	Native ² Code	Hex. Value	ADDS VP 60	ADDS VP A2	DG 200/DG 210 Unshifted	DG 200/DG 210 Shifted	IBM	HZ-1500
← (BACKSPACE)	CTRL H	08	CTRL H	CTRL H	CTRL Y	CTRL Y	CTRL H	CTRL H
↓	CTRL J ³	0A	CTRL J	CTRL J	CTRL Z	RS CTRL Z	ESC B	~ CTRL K
←	CTRL H	08	CTRL U	CTRL U	CTRL Y	RS CTRL Y	ESC D	CTRL H
→	CTRL L	0C	CTRL F	CTRL F	CTRL X	RS CTRL X	ESC C	CTRL P
↕	CTRL K	0B	CTRL Z	CTRL Z	CTRL W	RS CTRL W	ESC A	~CTRL L
DEL	DEL	7F	DEL	DEL	DEL		DEL	DEL
ENTER ⁵	CTRL M	0D	CTRL M	CTRL M	CTRL M	CTRL M	CTRL M	CTRL M
	or CTRL M	0D; 0A	or CTRL M	or CTRL M	or CTRL M	or CTRL M	or CTRL M	or CTRL M
	CTRL J		CTRL J	CTRL J	CTRL J	CTRL J	CTRL J	CTRL J
	or CTRL I	09	or CTRL I	or CTRL I	or CTRL I	or CTRL I	or CTRL I	or CTRL I
							or ⁶	
ESC	CTRL [	1B	CTRL [	CTRL [	CTRL [	CTRL [	CTRL [	CTRL [
HOME	CTRL ^	1E	CTRL A	CTRL A	CTRL H		ESC H	~ CTRL R
INS	ESC r	1B 72	ESC F	ESC r	RS _		ESC J	CTRL D
SHIFT INS	ESC q	1B 71	ESC f	ESC q		RS [	ESC P	CTRL U
PG DN	ESC K	1B 45	ESC J	ESC J				
PG UP	ESC J	1B 4A	ESC J	ESC J				
PRT SC	ESC P	1B 50	(local) ⁷	ESC P		(local) ⁸	(local) ⁸	CTRL F
TAB →	CTRL I	09	CTRL I	CTRL I	CTRL I		CTRL I	CTRL I
SHIFT TAB →	ESC I	1B 49	ESC O	ESC O			ESC 2	

1 Codes shown on keyboard layout are alphanumeric and function key scan codes sent in PC Term mode on all keyboards (the high bit is set when the key is released). See Table B-5 for scan codes sent by the editing and special keys in this mode.

2 These codes are also recognized in WY-50 +, ADM 31, and TeleVideo 910/920/925/950/955 modes. Unless otherwise noted, shifted keys send the same code as unshifted.

3 CTRL V if the terminal is in TeleVideo 925, 950, or 955 mode.

4 Shifted key sends ESC j in TeleVideo 925, 950, or 955 mode.

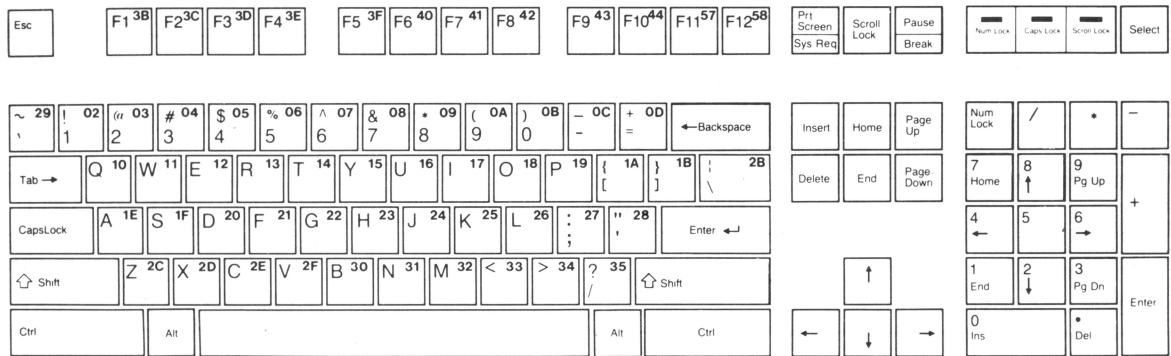
5 Code depends on selection in setup mode. Shifted key sends no code (toggles keyclick).

6 Or IBM send code as defined.

7 Prints unprotected.

8 Prints all.

Table B-4 Editing and Special Key Codes—Enhanced PC-Style Keyboard¹



Key	Native ² Code	Hex. Value	ADDS VP 60	ADDS VP A2	DG 200/DG 210 Unshifted	DG 200/DG 210 Shifted	IBM	HZ-1500
← BACKSPACE	CTRL H	08	CTRL H	CTRL H	CTRL Y	CTRL Y	CTRL M	CTRL H
↓	CTRL J ³	0A	CTRL J	CTRL J	CTRL Z	RS CTRL Z	ESC B	~ CTRL K
←	CTRL H	08	CTRL U	CTRL U	CTRL Y	RS CTRL Y	ESC D	CTRL H
→	CTRL L	0C	CTRL F	CTRL F	CTRL X	RS CTRL X	ESC C	CTRL P
↑	CTRL K	0B	CTRL Z	CTRL Z	CTRL W	RS CTRL W	ESC A	~ CTRL L
DELETE	DEL	7F	DEL	DEL	DEL		DEL	DEL
END	ESC T	1B 54	ESC K	ESC K	RS CTRL ^		ESC I	~ CTRL O
SHIFT END	ESC Y	1B 59	ESC k	ESC k		RS Z	ESC J	~ CTRL X
ENTER ⁵	CTRL M	0D	CTRL M	CTRL M	CTRL M	CTRL M	CTRL M	CTRL M
	or CTRL M	0D, 0A	or CTRL M	or CTRL M	or CTRL M	or CTRL M	or CTRL M	or CTRL M
	CTRL J		CTRL J	CTRL J	CTRL J	CTRL J	CTRL J	CTRL J
	or CTRL I	09	or CTRL I	or CTRL I	or CTRL I	or CTRL I	or CTRL I	or CTRL I
							or ⁶	
ESC	CTRL [	1B	CTRL [	CTRL [	CTRL [	CTRL [	CTRL [	CTRL [
HOME	CTRL ^	1E	CTRL A	CTRL A	CTRL H		ESC H	~ CTRL R
INSERT	ESC r	1B 72	ESC F	ESC r	RS _		ESC J	CTRL D
SHIFT INSERT	ESC q	1B 71	ESC f	ESC q		RS [	ESC P	CTRL U

¹ Codes shown on keyboard layout are alphanumeric and function key scan codes sent in PC Term mode on all keyboards (the high bit is set when the key is released). See Table B-5 for scan codes sent by the editing and special keys in this mode.

² These codes are also recognized in WY-50 +, ADM 31, and TeleVideo 910/920/925/950/955 modes. Unless otherwise noted, shifted keys send the same code as unshifted.

³ CTRL V if the terminal is in TeleVideo 925, 950, or 955 mode.

⁴ Shifted key sends ESC j in TeleVideo 925, 950, or 955 mode.

⁵ Code depends on selection in setup mode. Shifted key sends no code (toggles keyclick).

⁶ Or IBM send code as defined.

Table B-4 Editing and Special Key Codes—Enhanced PC-Style Keyboard, Continued

Key	Native ² Code	Hex. Value	ADDS VP 60	ADDS VP A2	DG 200/DG 210 Unshifted	DG 200/DG 210 Shifted	IBM	HZ-1500
PAGE DOWN	ESC K	1B 45	ESC J	ESC J				
PAGE UP	ESC J	1B 4A	ESC J	ESC J				
PRINT SCREEN	ESC P	1B 50	(local) ⁷	ESC P		(local) ⁸	(local) ⁸	CTRL F
TAB →	CTRL I	09	CTRL I	CTRL I	CTRL I		CTRL I	CTRL I
SHIFT TAB →	ESC I	1B 49	ESC O	ESC O			ESC 2	

7 Prints unprotected.

8 Prints all.

Scan Codes

Table B-5 lists the hexadecimal values of the scan codes sent by the editing and special keys on all four keyboards when the terminal is in the PC Term personality. (Keys are listed alphabetically under the AT-Style keyboard.)

- ☐ **Note**
- When a key is listed twice under the WY-60 ASCII, IBM 316X, or Enhanced PC-Style keyboard, the key shown in parentheses sends the indicated code when NUM LOCK is off. The second, longer code is sent when NUM LOCK is on.

Table B-5 Editing and Special Key Codes in PC Term Personality

Keyboard Style				Hexadecimal Scan Codes	
WY-60	IBM 316X	AT	Enhanced PC	PC Term Mode	
ASCII				DN	UP
FUNCT	RESET	ALT	LEFT ALT	38	B8
	SEND		RIGHT ALT	E0 38	E0 B8
BACKSPACE	← BACKSPACE	← (BACKSPACE)	← BACKSPACE	0E	8E
CTRL BREAK	BREAK		BREAK	E0 46	E0 C6
CAPS LOCK	CAPS LOCK	CAPS LOCK	CAPS LOCK	3A	BA
CTRL	LEFT CTRL	CTRL	LEFT CTRL	1D	9D
	RIGHT CTRL		RIGHT CTRL	E0 1D	E0 9D
RETURN	RETURN	ENTER	ENTER	1C	9C
ENTER	ENTER		ENTER _{kpd}	E0 1C	E0 9C
ESC	ESC	ESC	ESC	01	81

**Table B-5 Editing and Special Key Codes
in PC Term Personality, Continued**

Keyboard Style				Hexadecimal Scan Codes	
WY-60 ASCII	IBM 316X	AT	Enhanced PC	PC Term Mode	
				DN	UP
F15 ¹	JUMP ¹	NUM LOCK ¹	NUM LOCK ¹	45	C5
BREAK	HOLD		PAUSE	E1 1D 45 E1 9D C5	(none)
REPL SEND	SEND LINE PRINT	PRT SC * _{kpd}	* _{kpd} PRINT SCREEN	37 E0 2A E0 37	B7 E0 B7 E0 AA
F16	PRINT LINE	SCROLL LOCK	SCROLL LOCK	46	C6
LEFT SHIFT	LEFT SHIFT	LEFT SHIFT	LEFT SHIFT	2A	AA
RIGHT SHIFT	RIGHT SHIFT	RIGHT SHIFT	RIGHT SHIFT	36	B6
SPACEBAR	SPACEBAR	SPACEBAR	SPACEBAR	39	B9
SEND ²	PRINT ²	SYS REQ	PRINT SCREEN ²	54	D4
TAB	TAB →	TAB →	TAB →	0F	8F
— _{kpd}	— _{kpd}	— _{kpd}	— _{kpd}	4A	CA
+ _{kpd}	+ _{kpd}	+ _{kpd}	+ _{kpd}	4E	CE
CLR LINE	PAGE		/ _{kpd}	E0 35	E0 B5
* _{kpd} (DEL) DEL	* _{kpd} (DELETE) DELETE	. DEL _{kpd}	. DEL _{kpd} (DELETE) DELETE	53 E0 53 E0 2A E0 53	D3 E0 D3 E0 D3 E0 AA
0 _{kpd} (INS CHAR) INS CHAR	0 _{kpd} (INSERT) INSERT	0 INS _{kpd}	0 INS _{kpd} (INSERT) INSERT	52 E0 52 E0 2A E0 52	D2 E0 D2 E0 D2 E0 AA
1 _{kpd} (DEL CHAR) DEL CHAR	1 _{kpd} (← TAB) ← TAB	1 END _{kpd}	1 END _{kpd} (END) END	4F E0 4F E0 2A E0 4F	CF E0 CF E0 CF E0 AA
2 _{kpd} (▼) ▼	2 _{kpd} (↓) ↓	2 ↓ _{kpd}	2 ↓ _{kpd} (↓) ↓	50 E0 50 E0 2A E0 50	D0 E0 D0 E0 D0 E0 AA
3 _{kpd} (PAGE NEXT) PAGE NEXT	3 _{kpd} (ERASE EOF) ERASE EOF	3 PG DN _{kpd}	3 PG DN _{kpd} (PAGE DOWN) PAGE DOWN	51 E0 51 E0 2A E0 51	D1 E0 D1 E0 D1 E0 AA
4 _{kpd} (←) ←	4 _{kpd} (←) ←	4 ← _{kpd}	4 ← _{kpd} (←) ←	4B E0 4B E0 2A E0 4B	CB E0 CB E0 CB E0 AA

1 Toggles NUM LOCK status and NUM indicator on status line. You can press this key simultaneously with **CTRL** to synchronize the terminal with your application program's NUM LOCK status.

2 With **ALT** pressed simultaneously.

**Table B-5 Editing and Special Key Codes
in PC Term Personality, Continued**

Keyboard Style				Hexadecimal Scan Codes	
WY-60	IBM 316X	AT	Enhanced PC	PC Term Mode	
ASCII				DN	UP
5 _{kpd}	5 _{kpd}	5 _{kpd}	5 _{kpd}	4C	CC
6 _{kpd} (→)	6 _{kpd} (→)	6 → _{kpd}	6 → _{kpd} (→)	4D E0 4D E0 2A E0 4D	CD E0 CD E0 CD E0 AA
7 _{kpd} (HOME) HOME	7 _{kpd} (HOME) HOME	7 HOME _{kpd}	7 HOME _{kpd} (HOME) HOME	47 E0 47 E0 2A E0 47	C7 E0 C7 E0 C7 E0 AA
8 _{kpd} (▲) ▲	8 _{kpd} (↑) ↑	8 ↑ _{kpd}	8 ↑ _{kpd} (↑) ↑	48 E0 48 E0 2A E0 48	C8 E0 C8 E0 C8 E0 AA
9 _{kpd} (F14) F14	9 _{kpd} (CLEAR) CLEAR	9 PG UP _{kpd}	9 PG UP _{kpd} (PAGE UP) PAGE UP	49 E0 49 E0 2A E0 49	C9 E0 C9 E0 C9 E0 AA
F13	F13 F14 F15 F16			59 5A 5B 5C	D9 DA DB DC

Function Key Default Codes

Table B-6 Function Key Default Codes

Mode					Mode				
Key	Native ¹	ADDS VP	DG	IBM ²	Key	Native ¹	ADDS VP	DG	IBM ²
F1	CTRL A @ CR	STX 1 CR	RS q	ESC a *	SHIFT F16	CTRL A o CR			ESC ! p *
F2	CTRL A A CR	STX 2 CR	RS r	ESC b *	CTRL F1			RS 1	
F3	CTRL A B CR	STX 3 CR	RS s	ESC c *	CTRL F2			RS 2	
F4	CTRL A C CR	STX 4 CR	RS t	ESC d *	CTRL F3			RS 3	
F5	CTRL A D CR	STX 5 CR	RS u	ESC e *	CTRL F4			RS 4	
F6	CTRL A E CR	STX 6 CR	RS v	ESC f *	CTRL F5			RS 5	
F7	CTRL A F CR	STX 7 CR	RS w	ESC g *	CTRL F6			RS 6	
F8	CTRL A G CR	STX 8 CR	RS x	ESC h *	CTRL F7			RS 7	
F9	CTRL A H CR		RS y	ESC i *	CTRL F8			RS 8	
F10	CTRL A I CR		RS z	ESC j *	CTRL F9			RS 9	
F11	CTRL A J CR		RS {	ESC k *	CTRL F10			RS :	
F12	CTRL A K CR		RS |	ESC l *	CTRL F11			RS ;	
F13	CTRL A L CR		RS }	ESC m *	CTRL F12			RS <	
F14	CTRL A M CR		RS ~	ESC n *	CTRL F13			RS =	
F15	CTRL A N CR		RS p	ESC o *	CTRL F14			RS >	
F16	CTRL A O CR			ESC p *	CTRL F15			RS 0	
SHIFT F1	CTRL A ' CR	STX ! CR	RS a	ESC ! a *	CTRL SHIFT F1			RS !	
SHIFT F2	CTRL A a CR	STX " CR	RS b	ESC ! b *	CTRL SHIFT F2			RS "	
SHIFT F3	CTRL A b CR	STX # CR	RS c	ESC ! c *	CTRL SHIFT F3			RS #	
SHIFT F4	CTRL A c CR	STX \$ CR	RS d	ESC ! d *	CTRL SHIFT F4			RS \$	
SHIFT F5	CTRL A d CR	STX % CR	RS e	ESC ! e *	CTRL SHIFT F5			RS %	
SHIFT F6	CTRL A e CR	STX & CR	RS f	ESC ! f *	CTRL SHIFT F6			RS &	
SHIFT F7	CTRL A f CR	STX ' CR	RS g	ESC ! g *	CTRL SHIFT F7			RS '	
SHIFT F8	CTRL A g CR	STX (CR	RS h	ESC ! h *	CTRL SHIFT F8			RS (
SHIFT F9	CTRL A h CR		RS i	ESC ! i *	CTRL SHIFT F9			RS)	
SHIFT F10	CTRL A i CR		RS j	ESC ! j *	CTRL SHIFT F10			RS *	
SHIFT F11	CTRL A j CR		RS k	ESC ! k *	CTRL SHIFT F11			RS +	
SHIFT F12	CTRL A k CR		RS l	ESC ! l *	CTRL SHIFT F12			RS ,	
SHIFT F13	CTRL A l CR		RS m	ESC ! m *	CTRL SHIFT F13			RS -	
SHIFT F14	CTRL A m CR		RS n	ESC ! n *	CTRL SHIFT F14			RS .	
SHIFT F15	CTRL A n CR		RS `	ESC ! o *	CTRL SHIFT F15			RS SPACE	

¹ Codes also recognized in ADM 31, HZ 1500, and TVI 910 +, 920, 925, 950, and 955 modes.

² Asterisk indicates the IBM turnaround character (ETX, CR, EOT, or XOFF). Shifted key codes apply to IBM 3161 mode only.

C Wyseword Commands

Table C-1 lists the WordStar-compatible commands executed by the terminal in Wyseword mode.

- ☐ **Note** Keys located on the numeric keypad on the AT-Style keyboard function as described only when NUM LOCK is off. All keys on the enhanced PC-style keyboard function as described whether NUM LOCK is on or off.

Table C-1 Wyseword Commands

		Keyboard Style			
Command Description	WordStar Command	WY-60 ASCII	IBM 316X	AT	Enhanced PC
Move Cursor					
Right one character	^D	►	→	→	→
Left one character	^S	◄	←	←	←
Up one line	^E	▲	↑	↑	↑
Down one line	^X	▼	↓	↓	↓
Right one word	^F	SHIFT 3 _{kpd}	SHIFT 3 _{kpd}		SHIFT 3 _{kpd}
Left one word	^A	SHIFT 1 _{kpd}	SHIFT 1 _{kpd}		SHIFT 1 _{kpd}
To next tab stop	^I	TAB	TAB →	TAB →	TAB →
To top of screen, column 1	^QS^QE	HOME	HOME	HOME	HOME
To start of file	^QR	SHIFT HOME	SHIFT HOME	SHIFT HOME	SHIFT HOME
To end of file	^QC	F15	F15	F2	F2
To start of line	^QS	SHIFT ◄	SHIFT ←	SHIFT ←	SHIFT ←
To end of line	^QD	SHIFT ►	SHIFT →	SHIFT →	SHIFT →
To start of last find/replace	^QV	SHIFT 2 _{kpd}	SHIFT 2 _{kpd}		SHIFT 2 _{kpd}
To marked text	^Q (0-9)	F7 (0-9)	F7 (0-9)		
Scroll					
Up one line	^W	SHIFT ▲	SHIFT ↑	SHIFT ↑	SHIFT ↑
Down one line	^Z	SHIFT ▼	SHIFT ↓	SHIFT ↓	SHIFT ↓
To previous screen	^R	PREV PAGE	SHIFT PAGE	PG UP	PAGE UP
To next screen	^C	NEXT PAGE	PAGE	PG DN	PAGE DOWN
Down continuously	^QZ	PRINT	PRINT		SHIFT PRINT SCREEN
Find and Replace					
Find text	^QF	F5	F5	F5	F5
Find and replace text	^QA	F6	F6	F6	F6
Find/replace text again	^L	SHIFT F5	SHIFT F5	SHIFT F5	SHIFT F5
Return cursor to start of last find/replace	^QV	SHIFT 2 _{kpd}	SHIFT 2 _{kpd}		

**Table C-1 Wyseword Commands,
Continued**

		Keyboard Style			
Command Description	WordStar Command	WY-60 ASCII	IBM 316X	AT	Enhanced PC
File and Block Operations					
Change logged disk drive	^KL	SHIFT [⌘] kpd	SHIFT [⌘] kpd		
File directory on/off	^KF	SHIFT 0 _{kpd}	SHIFT 0 _{kpd}		SHIFT 0 _{kpd}
Print file	^KP	SHIFT [⌘] kpd	SHIFT [⌘] kpd	SHIFT [⌘] kpd	SHIFT [⌘] kpd
Column mode on/off	^KN	INS	SHIFT INSERT		
Mark/unmark block beginning	^KB	F9	F9	F9	F9
Mark/unmark block end	^KK	SHIFT F9	SHIFT F9	SHIFT F9	SHIFT F9
Move block	^KV	F12	F12	F7	F12
Hide/show block	^KH	F10	F10	F10	F10
Delete block	^KY	SHIFT F10	SHIFT F10	SHIFT F10	SHIFT F10
Copy block	^KC	F11	F11	F8	F11
Write block to file	^KW	SHIFT F11	SHIFT F11	SHIFT F8	SHIFT F11
Read block to file	^KR	SHIFT F12	SHIFT F12	SHIFT F7	SHIFT F12
Set/remove marker (0–9)	^K 0–9	SHIFT F7 (0–9)	SHIFT F7 (0–9)		
Save Files					
Save, resume edit	^KS^QP	SHIFT F4	SHIFT F4		SHIFT F4
Save, return to opening menu	^KD	F1	F1	F1	F1
Save, exit to system	^KX	SHIFT F1	SHIFT F1		SHIFT F1
Abandon edit	^KQ	SHIFT F2	SHIFT F2	SHIFT F1	SHIFT F2
Miscellaneous					
Interrupt command	^U	ESC	ESC	ESC	
Repeat next command or character	^QQ	SHIFT [⌘] kpd	SHIFT [⌘] kpd		
Set help level	^JH	SHIFT F3	SHIFT F3	SHIFT F3	SHIFT F3
Format					
Word wrap on/off	^OW	SHIFT F13	SHIFT F13	SHIFT F4	SHIFT F7
Justification on/off	^OJ	SHIFT F14	SHIFT F14	SHIFT F6	SHIFT F6
Set left margin	^OL	SHIFT F15	SHIFT F15		F7
Set right margin	^OR	SHIFT F16	SHIFT F16		F8
Paragraph tab	^OG	SHIFT TAB	SHIFT TAB →	SHIFT TAB →	SHIFT TAB →
Reformat paragraph	^B	F16	F16	SHIFT F2	SHIFT F8
Set tab	^OI	F13	F13		
Clear tab	^ON	F14	F14		
Center text	^OC	F8	F8		
Print control display on/off	^OD	SEND	SEND		

**Table C-1 Wyseword Commands,
Continued**

		Keyboard Style			
Command Description	WordStar Command	WY-60 ASCII	IBM 316X	AT	Enhanced PC
Delete and Insert					
Delete character left	DEL	DEL	DEL		
Delete character	^G	DEL CHAR	DELETE	DEL	DELETE
Delete line	^Y	DEL LINE	DEL LN	SHIFT DEL	SHIFT DELETE
Delete to end of line	^QY	CLR LINE	ERASE EOF		END
Delete to start of line	^Q DEL	SHIFT DEL	SHIFT ERASE EOF		SHIFT END
Delete block	^KY	SHIFT F10	SHIFT F10	SHIFT F10	
Insert mode on/off	^V	REPL	INSERT	INS	INSERT
Insert blank line	^N	INS LINE	INS LN	SHIFT INS	SHIFT INSERT
Print Commands					
Boldface on/off	^PB	F4	F4	F4	F4
Underline on/off	^PS	F3	F3	F3	F3
Double strike on/off	^PD	SHIFT 8 _{kpd}	SHIFT 8 _{kpd}		SHIFT 8 _{kpd}
Subscript on/off	^PV	SHIFT 4 _{kpd}	SHIFT 4 _{kpd}		SHIFT 4 _{kpd}
Superscript on/off	^PT	SHIFT 7 _{kpd}	SHIFT 7 _{kpd}		SHIFT 7 _{kpd}
Strikeout on/off	^PX	SHIFT 9 _{kpd}	SHIFT 9 _{kpd}		SHIFT 9 _{kpd}
Strikeover	^PH	SHIFT 5 _{kpd}	SHIFT 5 _{kpd}	SHIFT 5 _{kpd}	SHIFT 5 _{kpd}
Enter nonbreak space	^PO	SHIFT 6 _{kpd}	SHIFT 6 _{kpd}		SHIFT 6 _{kpd}
Dot Commands					
Enter footer	.FO	SHIFT F6	SHIFT F6		
Enter header	.HE	SHIFT F8	SHIFT F8		
Enter page break	.PA	F2	F2		

Introduction

This appendix lists local keyboard commands in the terminal's native mode (Table D-1) and all commands recognized by the terminal in its ASCII personalities (Table D-2). ANSI commands recognized by the terminal in the WY-75, VT52, and VT100 personalities are listed in the separate *WY-60 ANSI Personalities* chart accompanying this manual.

Local Keyboard Commands

Table D-1 lists local keyboard commands in the terminal's native mode.

Table D-1 Local Keyboard Commands in Native Mode

Command	Key Sequence by Keyboard Style			
	WY-60 ASCII	IBM 316X	AT	Enhanced PC
Toggle SHIFT LOCK on/off	CAPS LOCK	CAPS LOCK	CAPS LOCK	CAPS LOCK
Toggle NUM LOCK on/off			NUM LOCK	NUM LOCK
Hold data on screen ¹	FUNCT	HOLD	SCROLL LOCK	SCROLL LOCK
Put terminal in setup mode	SHIFT SETUP	SETUP	SHIFT SYS REQ	SHIFT SELECT
Partially reset terminal, including communication; unlock keyboard, turn off all print modes	SETUP	RESET	SYS REQ	SELECT
Send break ²	BREAK	BREAK	BREAK	BREAK
Toggle between block and full-duplex modes	SHIFT BREAK	BLOCK		SHIFT BREAK
Select other port as data port	CTRL BREAK			
Turn auxiliary print mode on/off	CTRL PRINT	SHIFT TRACE	CTRL SHIFT PRT SC	SHIFT SYS REQ
Turn monitor mode on/off	CTRL SHIFT 1_{kpd}		CTRL SHIFT 1_{kpd}	CTRL SHIFT 1_{kpd}
Turn keyclick on/off	SHIFT ENTER	SHIFT ENTER	SHIFT ENTER	SHIFT ENTER
Turn status line display on/off	CTRL ►	CTRL →	CTRL →	CTRL →
Turn on instant screen saver ³	CTRL CLR SCRN			
Turn Wyseword mode on/off	CTRL _{kpd}	CTRL _{kpd}	CTRL _{kpd}	CTRL _{kpd}
Put terminal in WyseWorks	CTRL CAPS LOCK	CTRL CAPS LOCK	CTRL CAPS LOCK	CTRL CAPS LOCK
Speed scrolling rate	CTRL SHIFT ▲	CTRL SHIFT ↑	CTRL SHIFT ↑	CTRL SHIFT ↑
Slow scrolling rate	CTRL SHIFT ▼	CTRL SHIFT ↓	CTRL SHIFT ↓	CTRL SHIFT ↓
Home cursor and clear page	CTRL SHIFT HOME	CTRL SHIFT HOME	CTRL SHIFT HOME	CTRL SHIFT HOME
Display page 0	CTRL 0_{kpd}	CTRL 0_{kpd}	CTRL 0_{kpd}	CTRL 0_{kpd}

1 When CORNER KEY setup parameter is set to HOLD.

2 To MODEM port only when configured as data port; has no effect on AUX port.

3 SCR N SAVER parameter must be on.

Table D-1 Local Keyboard Commands
in Native Mode, Continued

Key Sequence by Keyboard Style				
Command	WY-60 ASCII	IBM 316X	AT	Enhanced PC
Display page 1 (if more than one page is defined)	CTRL 1 _{kpd}	CTRL 1 _{kpd}	CTRL 1 _{kpd}	CTRL 1 _{kpd}
Display page 2 (if defined)	CTRL 2 _{kpd}	CTRL 2 _{kpd}	CTRL 2 _{kpd}	CTRL 2 _{kpd}
Display page 3 (if defined)	CTRL 3 _{kpd}	CTRL 3 _{kpd}	CTRL 3 _{kpd}	CTRL 3 _{kpd}
Display next page (or activate other window ⁴)	CTRL NEXT PAGE	CTRL PAGE		CTRL PAGE DOWN
Display previous page (or activate other window ⁴)	CTRL PREV PAGE	CTRL SHIFT PAGE	CTRL PG UP	CTRL PAGE UP
Toggle between split screen ⁵ and full screen format	CTRL SHIFT	CTRL SHIFT	CTRL SHIFT	CTRL SHIFT
Raise horizontal split and adjust display	[~] _{kpd} CTRL [~] _{kpd}	[~] _{kpd}	[~] _{kpd}	[~] _{kpd}
Lower horizontal split and adjust display	CTRL _{kpd}			
Roll active window up in page ⁴	CTRL ▲	CTRL ↑		
Roll active window down in page ⁴	CTRL ▼	CTRL ↓		

4 If screen is split.

5 Splits screen at line 12.

Commands Supported in ASCII Personalities

Table D-2 lists all the ASCII commands recognized by the terminal. The native mode code for the command is given in the second column. The remaining columns show the support for the command in other ASCII personalities according to the following notations:

Same

Same as native code (code is native to other terminal also)

Wyse

Same as native code (Wyse enhancement—code not native to other terminal)

ENH

Same as native code when enhance mode is on (Wyse enhancement—code not native to other terminal)

A code listed under a nonnative personality indicates that the related terminal's native code is supported. A blank in any column indicates that the command is not supported.

Variables are shown in italics. Their values are given at the end of the table according to the reference numbers in brackets after the command description, e.g., [22].

Table D-2 Commands Supported in ASCII Personalities

Function	Command					
	Native Mode	WY-50 + ADM 31	ADDS VP A2	ADDS VP 60	DG 200 DG 210	HZ 1500
Monitor Mode						
Monitor mode on	ESC U	Same			ENH ¹	ENH
Monitor mode off	ESC u or ESC X	Same			ENH	ENH
Selecting Personalities						
Enhance mode off	ESC ~ SPACE	Same	Wyse	Wyse	Wyse	ENH
Enhance mode on	ESC ~ !	Same				
Select WY-50 + mode	ESC ~ "	Same	Wyse	Wyse	Wyse	ENH
Select TVI 910 + mode	ESC ~ #	Same	Wyse	Wyse	Wyse	ENH
Select TVI 925 mode	ESC ~ \$	Same	Wyse	Wyse	Wyse	ENH
Select ADDS VP A2 mode	ESC ~ %	Same	Wyse	Wyse	Wyse	ENH
Select HZ 1500 mode	ESC ~ &	Same	Wyse	Wyse	Wyse	ENH
Select TVI 912/920 mode	ESC ~ '	Same	Wyse	Wyse	Wyse	ENH
Select TVI 950 mode	ESC ~ (	Same	Wyse	Wyse	Wyse	ENH
Select DG 200 mode	ESC ~)	Same	Wyse	Wyse	Wyse	ENH
Select IBM 3101-1X mode	ESC ~ *	Same	Wyse	Wyse	Wyse	ENH
Select ADM 31 mode	ESC ~ +	Same	Wyse	Wyse	Wyse	ENH
Select TVI 955 mode	ESC ~ ,	Same	Wyse	Wyse	Wyse	ENH
Select WY-75 mode	ESC ~ -	Same	Wyse	Wyse	Wyse	ENH
Select WY-60 mode	ESC ~ 4	Same	Wyse	Wyse	Wyse	ENH
Select PC Term mode	ESC ~ 5	Same	Wyse	Wyse	Wyse	ENH
Select VT52 mode	ESC ~ 6	Same	Wyse	Wyse	Wyse	ENH
Select IBM 3101-2X mode	ESC ~ 7	Same	Wyse	Wyse	Wyse	ENH
Select ADDS VP 60 mode	ESC ~ 8	Same	Wyse	Wyse	Wyse	ENH
Select IBM 3161 mode	ESC ~ 9	Same	Wyse	Wyse	Wyse	ENH
Select DG 210 mode	ESC ~ :	Same	Wyse	Wyse	Wyse	ENH
Select VT100 mode	ESC ~ ;	Same	Wyse	Wyse	Wyse	ENH
Communicating with the Computer						
Enable transmission	CTRL Q	Same	Same	Same	Same	Same
Stop transmission	CTRL S	Same	Same	Same	Same	Same
Disconnect						
Send ACK (if ACK mode on)	CTRL E	Same				
ACK mode off	ESC e 6	Same				Wyse
ACK mode on	ESC e 7	Same				Wyse
Full-duplex mode on	ESC C ESC D F	Same			ENH	ENH
Half-duplex mode on	ESC C ESC D H	Same			ENH	ENH
Block mode on	ESC B	Same			ENH	ENH
Block mode off (conversation)						
Half-duplex block mode on	ESC D H ESC B	Same			ENH	ENH

¹ In DG 200 and DG 210 modes, ESC and RS are interchangeable in Wyse-enhanced codes.

IBM 3101	IBM 3161	TeleVideo				955	PC Term
		910 +	920	925	950		
CTRL P	CTRL P	Same	Wyse	Same	Same	Same	Same
STX	STX						
CTRL P	CTRL P	Same	Wyse	Same	Same	Same	Same
ETX	ETX					Same	Same
		ENH	ENH	ENH	ENH	ENH	ESC v SPACE
		ENH	ENH	ENH	ENH	ENH	ESC v !
Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	ESC v "
Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	ESC v #
Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	ESC v \$
Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	ESC v %
Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	ESC v &
Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	ESC v '
Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	ESC v (
Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	ESC v)
Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	ESC v *
Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	ESC v +
Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	ESC v ,
Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	ESC v -
Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	ESC v 4
Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	ESC v 5
Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	ESC v 6
Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	ESC v 7
Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	ESC v 8
Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	ESC v 9
Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	ESC v :
Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	Wyse	ESC v ;
Same	Same	Same	Same	Same	Same	Same	Same
Same	Same						
CTRL P	CTRL P						
EOT	EOT	Wyse	Wyse	Wyse	Wyse	Wyse	Wyse
		ENH	ENH	ENH	ENH	ENH	
		ENH	ENH	ENH	ENH	ENH	
		Same	Wyse	Same	Same	Same	ESC }
		Same	Wyse	Same	Same	Same	ESC {
		Same	Wyse	Same	Same	Same	Same
							ESC C
		Same	Same	Same	Same	Same	

Table D-2 Commands Supported in ASCII Personalities, Continued

Function	Command					
	Native Mode	WY-50 + ADM 31	ADDS VP A2	ADDS VP 60	DG 200 DG 210	HZ 1500
Select MODEM port for data communications	ESC e 8	Same			Wyse	
Select AUX port for data communications	ESC e 9	Same			Wyse	
Select 8 data bits						
Select 7 data bits						
Set MODEM port operating parameters [1,2,3,4]	ESC c 0 <i>baud stop parity word</i>	Same			ENH	ENH
Set AUX port operating parameters [1,2,3,4]	ESC c 1 <i>baud stop parity word</i>	Same		ESC A	ENH	ENH
Set MODEM port receive handshaking [5]	ESC c 2 <i>hndshk</i>	Same			ENH	ENH
Set AUX port receive handshaking [5]	ESC c 3 <i>hndshk</i>	Same			ENH	ENH
Set MODEM port transmit handshaking [5]	ESC c 4 <i>hndshk</i>	Same			ENH	ENH
Reset MODEM port transmit handshaking						
Set AUX port transmit handshaking [5]	ESC c 5 <i>hndshk</i>	Same			ENH	ENH
Enable DTR MODEM port handshaking						
Enable X-on/X-off MODEM port handshaking						
Set maximum data transmission speed [6]	ESC c 6 <i>max</i>	Same			ENH	ENH
Send terminal ID	ESC SPACE	Same			RS C	
Program answerback message [7]	ESC c ; <i>answer CTRL Y</i>	Same				
Send answerback message	ESC c <	Same				
Conceal answerback message	ESC c =	Same				
Answerback mode off	ESC e SPACE	Same				
Answerback mode on	ESC e !	Same				
Send model						
Load time of day [8,9]	ESC c 8 <i>hh mm</i>	Same			ENH	ENH
Controlling the Terminal and Keyboard						
Local edit mode on	ESC k	Same			ENH	ENH
Duplex edit mode on	ESC l	Same			ENH	ENH
Wyseword mode off	ESC ~ .	Same			ENH	ENH
Wyseword mode on	ESC ~ /	Same			ENH	ENH
Initialize tabs off	ESC e :	Same				Wyse
Initialize tabs on	ESC e ;	Same				Wyse
Application key mode off	ESC ~ 2	Same			ENH	ENH

IBM 3101	IBM 3161	TeleVideo				955	PC Term
		910 +	920	925	950		
Same	Same	ENH	ENH	ENH	ENH		ESC v 3
ESC ;	ESC ;	Same	Same	Same	Same	Same	Same
		ESC "	ESC "	ESC "	ESC "	ESC "	ESC "
ESC :	ESC :	Same	Same	Same	Same	ESC #	ESC #
		ESC <		ESC <	ESC <	ESC <	ESC <
		ESC >		ESC >	ESC >	ESC >	ESC >
		ENH		ENH	ENH	ENH	
		ENH		ENH	ENH	ENH	
						ESC [	ESC n
						= 4 l	
						CTRL W	
						ESC [
						= 4 h	ESC o
						ESC [
						= 9 h/l	
		ENH	ENH	ENH	ENH	ESC [
						= 8 l	
		ENH	ENH	ENH	ENH	ESC [
						= 8 h	
ESC 6							ESC [
ESC 7							
ESC 9							
	ESC						ESC m
	SPACE S						
	ESC SPACE						
	9/7						
	ESC ! 9/7						
	ESC " 9/7						
	ESC # 9/7						
	ESC \$ 9/7						
	ESC % 9/7						
	ESC & 9/7						
	ESC ! s						

Table D-2 Commands Supported in ASCII Personalities, Continued

Function	Command					
	Native Mode	WY-50 + ADM 31	ADDS VP A2	ADDS VP 60	DG 200 DG 210	HZ 1500
Redefining the Keys						
Program function key definition [10,11]	ESC z <i>fkey</i> sequence DEL	Same	ENH	ENH	ENH	ENH
Program key direction and definition [10,11,12,13]	ESC Z <i>dir key</i> sequence DEL	Same				
Read key direction and definition [11,13]	ESC Z ~ <i>key</i>	Same				
Clear key definition [11,13]	ESC z <i>key</i> DEL	Same	ENH	ENH	ENH	ENH
Set maximum function key transmission speed [6]	ESC c 7 <i>max</i>	Same				
Invoke function key						
Default function key						
Default all function keys						
Default all programmable keys	ESC c U	Same				
Screen and Cursor Display						
Screen display off	ESC ` 8	Same	ENH	ESC D	ENH	ENH
Screen display on	ESC ` 9	Same	ENH	ESC d	ENH	ENH
Screen saver off	ESC e P	Same				
Screen saver on	ESC e Q	Same				
Reverse screen	ESC ^ 1	Same	ENH	ENH		Wyse
Restore normal screen	ESC ^ 0	Same	ENH	ENH		Wyse
Set scrolling speed and type [14]	ESC ` <i>scroll</i>	Same	ENH			ENH
Smooth scrolling on						
Smooth scrolling off						
Set cursor display features [15]	ESC ` <i>cursor</i>	Same	ENH			ENH
Cursor display off			CTRL W	CTRL W		
Cursor display on			CRTL X	CRTL X		
25th line display off						
Displaying the Message Fields						
Extended status line on	ESC ` a	Same	ENH		ENH	ENH
Standard status line on	ESC ` b	Same	ENH	ESC b	ENH	ENH
Status line off	ESC ` c	Same	ENH	ESC B	ENH	ENH
Program/display computer message on status line [16]	ESC F <i>message</i> CR	Same			ENH	ENH
Program computer message on unshifted label line ³ [17]	ESC z (<i>text</i> CR	Same	ENH	ENH	ENH	ENH

2 With enhance mode on.

3 Automatically displayed in native mode. May be hidden by assigning blank attribute (ESC A I I).

IBM 3101	IBM 3161	910 +	920	925	TeleVideo 950	955	PC Term .
	ESC ! = Fn	ENH ESC |	ENH ESC |	ENH ESC |	ENH ESC |	ENH ESC |	ENH ESC |
	ESC tFn ESC SPACE t					ESC [n |	
		ESC o ESC n ENH ENH ESC b ESC d ESC 8² ESC 9² ESC .	ESC o ESC n ENH ENH ESC b ESC d ESC 8² ESC 9² ESC .	ESC o ESC n ENH ENH ESC b ESC d ESC 8² ESC 9² ESC .	ESC o ESC n ENH ENH ESC b ESC d ESC 8 ESC 9 ESC .	ESC o ESC n ESC [8; n v ESC [8; n v ESC b ESC d ESC [6; n v ESC 8² ESC 9² ESC .	ESC O ESC N ESC . ESC e
		ENH ESC f²	ENH ESC f²	ENH ESC f²	ENH ESC f	ESC f	ESC f

Table D-2 Commands Supported in ASCII Personalities, Continued

Function	Command					
	Native Mode	WY-50 + ADM 31	ADDS VP A2	ADDS VP 60	DG 200 DG 210	HZ 1500
Program computer message on shifted label line [17]	ESC z) <i>text</i> CR	Same	ENH	ENH	ENH	ENH
Turn on unshifted label line						
Turn off unshifted label line	ESC A 11 ³	Same			ENH	ENH
Display shifted label line	ESC z P CR	Same	ENH	ENH	ENH	ENH
Turn off shifted label line	ESC z DEL	Same	ENH	ENH	ENH	ENH
Clear unshifted label line	ESC z (CR	Same	ENH	ENH	ENH	ENH
Clear shifted label line	ESC z) CR	Same	ENH	ENH	ENH	ENH
Program/display function key label [18,19]	ESC z <i>field</i> / <i>label</i> CR	Same	ENH	ENH	ENH	ENH
Clear function key label [19]	ESC z <i>field</i> CR	Same	ENH	ENH	ENH	ENH
Don't save function key labels	ESC e J	Same				Wyse
Save function key labels	ESC e K	Same				Wyse
Defining the Data Area						
Select 80-column display	ESC ` :	Same				
Select 132-column display	ESC ` ;	Same				
Economy 80-column mode off	ESC e F	Same				
Economy 80-column mode on	ESC e G	Same				
Width-change-clear mode off	ESC e .	Same				Wyse
Width-change-clear mode on	ESC e /	Same				Wyse
Display 24 data lines	ESC e (	Same				
Display 25 data lines	ESC e)	Same				
Display 42 data lines	ESC e *	Same				
Display 43 data lines	ESC e +	Same				
Display Memory/Split Screen						
Divide memory into pages [20]	ESC w <i>length</i>	Same				
Display previous page	ESC w B or ESC J ⁵	Same				
Display next page	ESC w C or ESC K ⁵	Same				
Display page 0	ESC w 0	Same				
Display page 1	ESC w 1	Same				
Display page 2	ESC w 2 ⁶	ESC w 2				
Display page 3		ESC w 3				

⁴ With enhance mode off.

⁵ If screen is not split.

⁶ With economy 80-column mode on.

IBM 3101	IBM 3161	910 +	920	925	TeleVideo 950	955	PC Term
		ESC g ² ESC h ² ENH ENH	ESC g ² ESC h ² ENH ENH	ESC g ESC h ENH ENH	ESC g ESC h ENH ENH		
		ENH ENH	ENH ENH	ENH ENH	ENH ENH	Wyse	
		ENH	ENH	ENH	ENH	Wyse	
						ESC [= 3 l ESC [= 3 h	
							ESC ^
							ESC _
		ESC J	ESC J	ESC J	ESC \ ⁴ ESC J	ESC \ ESC J	
		ESC K	ESC K	ESC K	ESC K	ESC K	
						ESC [1; 0 } ESC [1; 1 } ESC [1; 2 } ⁶	

Table D-2 Commands Supported in ASCII Personalities, Continued

Function	Command					
	Native Mode	WY-50 + ADM 31	ADDS VP A2	ADDS VP 60	DG 200 DG 210	HZ 1500
Display page 4		ESC w 4				
Display page 5		ESC w 5 ⁶				
Display page 6		ESC w 6 ⁶				
Split screen horizontally (2 pages only) [21]	ESC x A <i>line</i>	Same				
Split screen horizontally (2 pages only) and clear pages [21]	ESC x 1 <i>line</i>	Same				
Define scrolling region						
Split screen horizontally (multiple pages) [21]	ESC x C <i>line</i>	Same				
Split screen horizontally (multiple pages) and clear pages [21]	ESC x 3 <i>line</i>	Same				
Activate upper window	ESC]	Same				
Activate lower window	ESC }	Same				
Activate other window (or page ⁵)	ESC J or ESC K	Same				
Lower horizontal split	ESC x P	Same				
Raise horizontal split	ESC x R	Same				
Roll window up in page	ESC w E	Same				
Roll window down in page	ESC w F	Same				
Redefine screen as one window	ESC x @	Same				
Redefine screen as one window and clear pages	ESC x 0	Same				
Create viewport						
Select host partition						
Select active partition						
Jump partition						
Display Attributes						
Assign display attribute to a message field [22, 23]	ESC A <i>n attr</i>	Same			ENH	ENH
Assign character display attribute [23]	ESC G <i>attr</i>	Same		ESC 0	ENH	ENH
Character attribute mode off	ESC e 0					
Character attribute mode on	ESC e 1					
Page attribute mode on	ESC e 2	Same				
Line attribute mode on	ESC e 3	Same				
Assign write-protected character display attribute [24]	ESC ` <i>wpc a</i>	Same	ESC 0			

IBM 3101	IBM 3161	910 +	920	925	TeleVideo 950	955	PC Term
	ESC SPACE r ESC SPACE q ESC ! q ESC " A					ESC [tline; bline	
		ESC \ ⁴ Same	ESC \ ⁴ Same	ESC \ ⁴ Same	ESC \ Same	ESC [3; n v Same	
						ESC [= 2 h ESC [= 2 l	

Table D-2 Commands Supported in ASCII Personalities, Continued

Function	Command					
	Native Mode	WY-50 + ADM 31	ADDS VP A2	ADDS VP 60	DG 200 DG 210	HZ 1500
Assign write-protected character display attribute/write-protect on						
Clear unprotected page to display attribute		ESC ! <i>attr</i>	ENH		ENH	ENH
Assign line attribute [25]	ESC G <i>lattr</i>	Same				
Set tag protect attribute			CTRL N			
Reset tag protect attribute			CTRL O			
Set field attribute						
Set character attribute						
Start reverse video					RS D	
End reverse video					RS E	
Start underline					CTRL T	
End underline					CTRL U	
Start blink					CTRL N	
End blink					CTRL O	
Blink enable					CTRL C	
Blink disable					CTRL D	
Start blank						
End blank						
Start dim					CTRL \	
End dim					CTRL]	
Nonhidden attributes (space)						
Hidden attributes (no space)						
Set/reset normal intensity mode						
Protecting Data						
Write-protect mode off	ESC (	Same	CTRL O			~ US
Write-protect mode on	ESC)	Same	CTRL N			~ EM
Clear cursor column to write-protected spaces	ESC V	Same				ENH
Protect mode off	ESC '	Same	ENH			ENH
Protect mode on	ESC &	Same	ENH			ENH
Graphics Characters						
Graphics mode on	ESC H CTRL B	Same		ESC 1	ENH	ENH
Graphics mode off	ESC H CTRL C	Same		ESC 2	ENH	ENH
Display graphics character [26]	ESC H <i>key</i>	Same			ENH	ENH

7 IBM 3101-2X mode only.

IBM 3101	IBM 3161	910 +	920	925	TeleVideo 950	955	PC Term
ESC 3 ⁷	ESC 3 ESC 4	Wyse	Wyse	Wyse	ENH		ESC G <i>wpca</i>
		ESC j	ESC k ESC l ESC m ESC ^ ESC q				
			ESC _ ESC q				
						ESC F 0 ESC F 1 ESC [= 5 h/l	
		Same Same	Same Same	Same Same	Same Same	Same Same	Same Same or ESC G <i>wpca</i>
		Same	Same	Same	Same		
		Same Wyse	Same Same	Same Same	Same Same	Same Same	Same Same
		ESC \$ ² ESC % ²	ESC \$ ² ESC % ²	ESC \$ ² ESC % ²	ESC \$ ESC %	ESC \$ ESC %	ESC \$ ESC %

Table D-2 Commands Supported in ASCII Personalities, Continued

Function	Command					
	Native Mode	WY-50 + ADM 31	ADDS VP A2	ADDS VP 60	DG 200 DG 210	HZ 1500
Controlling the Cursor						
Cursor left (backspace)	CTRL H	Same	Same or CTRL U	Same or CTRL U	CTRL Y	Same
Cursor right	CTRL L	Same	CTRL F	CTRL F	CTRL X	CTRL P
Cursor up; no scroll	CTRL K	Same	CTRL Z	CTRL Z	CTRL W	~ FF
Cursor up; scroll (reverse linefeed)	ESC j	Same	ENH			ENH
Cursor down; no scroll					CTRL Z	~ VT
Cursor down; scroll (linefeed)	CTRL J	Same	Same	Same	Same or CTRL L	Same
Cursor to start of line	CTRL M	Same	Same	Same	CTRL J	Same
Cursor to start of next line	CTRL _	Same	ENH		CTRL J	ENH
Home cursor	ESC { or CTRL ^	Same	ENH or CTRL A	CTRL A	CTRL H	ENH or ~ DC2
Cursor to specific column			CTRL P col	CTRL P col		
Cursor to specific line			CTRL K line	CTRL K line		
End-of-line wrap off	ESC d .	Same				
End-of-line wrap on	ESC d /	Same				
Received CR mode off	ESC e 4	Same				
Received CR mode on	ESC e 5	Same				
Autopage mode off	ESC d *	Same				
Autopage mode on	ESC d +	Same				
Autoscrolling mode off	ESC N	Same			CTRL R	ENH
Autoscrolling mode on	ESC O	Same			CTRL S	ENH
Line lock mode on	ESC ` H	Same				
Line lock mode off	ESC ` I	Same				
Must tab mode off				ESC h		
Must tab mode on				ESC H		
Address cursor in current 80-column page [21]	ESC = line col	Same	ENH or ESC Y	ESC Y	CTRL P	ENH or ~ DC1
Address cursor in specific 80-column page [27,21]	ESC w @ page line col	Same	ENH		ENH	
Address cursor in specific 80-column window/page ⁵ [27,21]	ESC - wnd / page line col	Same	ENH		ENH	

IBM 3101	IBM 3161	TeleVideo				955	PC Term
		910 +	920	925	950		
or Same ESC D	Same or ESC D	Same	Same	Same	Same	Same or ESC [n D	Same
ESC C	ESC C	Same	Same	Same	Same	Same or ESC [n C	Same
ESC A	ESC A	Same	Same	Same	Same	Same or ESC [n A	Same
ESC B	ESC B	Wyse CTRL V	CTRL V	Same CTRL V	Same CTRL V	Same CTRL V or ESC [n B	Same CTRL V
Same	Same	Same	Same	Same	Same	Same	Same
Same	Same	Same	Same	Same	Same	Same	Same
ESC H	ESC H	Wyse Same ESC]	Wyse Same	Wyse Same	Wyse Same	ESC [H or CTRL ^	CTRL ^
		ESC [
		ENH	ENH	ENH	ENH	ESC [= 7 l	ESC 0
		ENH	ENH	ENH	ENH	ESC [= 7 h	ESC ~
		ENH	ENH	ENH	ENH	ESC [= 6 l	ESC 9
		ENH	ENH	ENH	ENH	ESC [= 6 h	ESC 8
		ESC w ESC v	ESC w ESC v	ESC w ESC v	ESC w ESC v	ESC w ESC v	
					ESC ! 1 ESC ! 2	ESC ! 1 ESC ! 2	
ESC Y	ESC Y	Same	Same	Same	Same	Same	Same
		ESC - ⁴	ESC - ⁴	ESC -	ESC -		
						Same	Same

Table D-2 Commands Supported in ASCII Personalities, Continued

Function	Command					
	Native Mode	WY-50 + ADM 31	ADDS VP A2	ADDS VP 60	DG 200 DG 210	HZ 1500
Address cursor in current 80/132-column page [28,29]	ESC a /// R ccc C	Same	ENH		ENH	ENH
Set buffer address						
Reset buffer address mode						
Insert cursor						
Read cursor address in current 80-column page	ESC ?	Same	ENH		CTRL E	~ ENQ
Read 80-column page number and cursor address	ESC w `	Same				
Read 80-column window/page number and cursor address	ESC /	Same				
Read cursor address in 80/132-column page	ESC b	Same			ENH	ENH
Editing						
Clear all tab stops	ESC 0	Same				ESC 3
Set tab stop	ESC 1	Same				ENH
Clear tab stop	ESC 2	Same				ENH
Tabulate cursor	ESC i or CTRL I	Same	ENH	CTRL I		
Backtab	ESC I	Same	ENH	ESC 0		ENH
Field tab						
Insert mode on, replace mode off	ESC q	Same	ENH		ENH	ENH
Insert mode off, replace mode on	ESC r	Same	ENH		ENH	ENH
Page edit mode off	ESC e ''	Same				
Page edit mode on	ESC e #	Same				
Insert space character	ESC Q	Same	ENH		ENH	ENH
Insert character to EOF/EOL				ESC F		
Insert character to EOP				ESC f		
Insert <i>n</i> characters						
Insert line of spaces	ESC E	Same	ESC M	ESC M	ENH	ENH or ~ SUB
Insert <i>n</i> lines						
Insert line of nulls						
Insert column of nulls	ESC c M	Same				
Delete cursor character	ESC W	Same	ENH	ESC E or ESC e	ENH .	ENH

IBM 3101	IBM 3161	910 +	920	925	TeleVideo 950	955	PC Term
ESC X	ESC X					ESC [// ccc H or ESC [// ccc f	
ESC Z	ESC Z						
ESC 5	ESC 5	Same	Same	Same	Same	Same or ESC [6 n	Same
		ENH	ENH	Same	Same	Same or ESC [? 6 n	Same
ESC 0	ESC 0	Same	Same	Same	Same	Same	Same
ESC 1	ESC 1	Same	Same	Same	Same	Same	Same
CTRL I	CTRL I	CTRL I	CTRL I	CTRL I	CTRL I	CTRL I	CTRL I
ESC 2 ⁷	ESC 2	Same	Same	Same	Same	Same	Same
		ESC i	ESC i	ESC i	ESC i	ESC i	ESC i
		ENH		ENH	Same	Same	ESC Z
		ENH		ENH	Same	Same	Same
		Same	Same	Same	ESC 0 ESC N Same	ESC 0 ESC N Same	Same
		Same	Same	Same	Same	ESC [n @ Same	Same
ESC N ⁷	ESC N					ESC [n L	
ESC Q ⁷	ESC Q	Same	Same	Same	Same	Same	Same

Table D-2 Commands Supported in ASCII Personalities, Continued

Function	Command					
	Native Mode	WY-50 + ADM 31	ADDS VP A2	ADDS VP 60	DG 200 DG 210	HZ 1500
Delete <i>n</i> characters						
Delete cursor line	ESC R	Same	ESC I	ESC I	CTRL K	ENH or ~ DC3
Delete <i>n</i> lines						
Delete cursor column	ESC c J	Same				
Clearing Data						
Clear page to nulls	ESC *	Same	ENH		ENH	ENH
Clear page to spaces	ESC +	Same	ENH or CTRL L	CTRL L	CTRL L	ENH or ~ FS
Clear page to write-protected spaces	ESC ,	Same	ENH		ENH	ENH or ~ ETB
Clear unprotected page to spaces	ESC ; or CTRL Z	Same	ESC ;		ENH	ENH or ~ GS
Clear unprotected page to protected spaces						
Clear unprotected page to nulls	ESC :	Same	ENH		ENH	ENH
Clear unprotected page to a specific character [30]	ESC . <i>char</i>	Same	ENH		ENH	ENH
Clear unprotected page to display attribute [23]		ESC ! <i>attr</i>	ENH		ENH	ENH
Clear unprotected page to spaces from cursor	ESC Y	Same	ESC k	ESC k	ENH	ENH or ~ CAN
Clear unprotected page to nulls from cursor	ESC y	Same	ENH		ENH	ENH
Clear unprotected page foreground to spaces	ESC c P	Same				
Clear unprotected page foreground to nulls	ESC c Q	Same				
Clear unprotected characters in page						
Clear line to nulls from cursor						
Clear unprotected line to spaces from cursor	ESC T	Same	ESC K	ESC K	ENH	ENH or ~ S1
Clear unprotected line to nulls from cursor	ESC t	Same			ENH	ENH
Clear unprotected to end of line with spaces	ESC c O	Same				
Clear unprotected to end of line with nulls	ESC c L	Same				
Clear unprotected line foreground to spaces	ESC c R	Same				

8 IBM 3101-IX mode only.

TeleVideo							
IBM 3101	IBM 3161	910 +	920	925	950	955	PC Term
ESC O ⁷	ESC O	Same	Same	Same	Same	ESC [n P	Same
						ESC [n M	
ESC L ⁷ ESC J ⁸	ESC L	Same	Same	Same	Same	Same Same	Same
							Same
		ESC ; or ESC + ESC ,	ESC ; or ESC +	ESC ; or ESC + ESC ,	ESC ; or ESC + ESC ,	Same Same ESC ,	Same or ESC +
		Same	Same	Same	Same	Same	Same
		Wyse	Wyse	Wyse	Wyse		
ESC J ⁷	ESC J	Same	Same	Same	Same	Same	Same
		Same	Same	Same	Same	Same	Same
						ESC [n J	
ESC I ⁸		Same	Same	Same	Same	Same	Same
ESC I ⁷	ESC I	Same	Same	Same	Same	Same	Same

Table D-2 Commands Supported in ASCII Personalities, Continued

Function	Command					
	Native Mode	WY-50 + ADM 31	ADDS VP A2	ADDS VP 60	DG 200 DG 210	HZ 1500
Clear unprotected line foreground to nulls	ESC c S	Same				
Clear unprotected characters in line						
Clear unprotected column to nulls	ESC c K	Same				
Clear unprotected column to specific character [30]	ESC c I <i>char</i>	Same				
Box rectangle to right of cursor [31,32]	ESC c N <i>width</i> <i>height</i>	Same				
Box rectangle in 80-column page [21]	ESC c G <i>line col</i>	Same				
Box rectangle in 132-column page [21]	ESC c G <i>line ~ col</i>	Same				
Clear unprotected rectangle in 80-column page [21,30]	ESC c F <i>line col char</i>	Same				
Clear unprotected rectangle in 132-column page [21,30]	ESC c F <i>line ~ col char</i>	Same				
Clear entire rectangle in 80-column page [21,30]	ESC c H <i>line col char</i>	Same				
Clear entire rectangle in 132-column page [21,30]	ESC c H <i>line ~ col char</i>	Same				
Erase input						
Erase variable data				ESC G		
Fill page with H's						
Clear all						
Sending Data						
Begin print/send at top of page	ESC d '	Same				
Begin print/send at top of screen	ESC d &	Same				
Send cursor character	ESC M	Same			ENH	ENH
Send entire cursor line	ESC 6	Same			ENH	ENH
Send unprotected line	ESC 4	Same			ENH	ENH
Send entire page	ESC 7	Same	ENH		ENH	ENH
Send unprotected page	ESC 5	Same		ESC DC1	ENH	ENH
Mark block beginning	ESC 8	Same	ENH		ENH	ENH
Mark block end	ESC 9	Same	ENH		ENH	ENH
Send entire block	ESC s	Same	ENH		ENH	ENH
Send unprotected characters in block	ESC S	Same	ENH		ENH	ENH
Write send mark						
Read buffer						
Report terminal status				ESC ENQ		
Report attribute under cursor						
Send message						
Send all						

IBM 3101	IBM 3161	910 +	920	925	TeleVideo 950	955	PC Term
						ESC [n K	
						ESC H	
ESC K	ESC K						ESC F
	ESC ! L						
	ESC ! 8	Same Same Same Same	Same Same Same Same	Same Same Same Same	Same Same Same Same	Same Same Same Same	Same Same Same Same
ESC E ⁷ ESC 8 ⁷	ESC E ESC 8 ESC 6 ESC SPACE 8 ESC # 8	Same Same	Same Same	Same Same	Same Same	Same Same	Same Same ESC [ESC D

Table D-2 Commands Supported in ASCII Personalities, Continued

Function	Command					
	Native Mode	WY-50 + ADM 31	ADDS VP A2	ADDS VP 60	DG 200 DG 210	HZ 1500
Print Functions						
Set print terminator						
Define delimiters						
Print formatted page	ESC P	Same	ENH		CTRL Q ⁹	ENH
Print formatted unprotected page	ESC @	Same	ENH			ENH
Print unformatted page	ESC p or ESC L	Same	ESC p	ESC x	ESC L ²	ENH
Print page with time						
Print all unprotected				ESC X	CTRL A ⁹	
Print line						
Print message						
Auxiliary print mode off	CTRL T	Same	Same	Same		ENH
Auxiliary print mode on	CTRL R	Same	Same	Same		ENH
Transparent print mode off	CTRL T	Same	ESC 4	ESC 4	RS F ? 2 or RS F a	ENH
Transparent print mode on	ESC d #	Same	ESC 3	ESC 3	RS F ? 3 or RS F `	ENH
Secondary receive mode off	ESC d SPACE	Same				ENH
Secondary receive mode on	ESC d !	Same				ENH
Bidirectional mode off	ESC d \$	Same				ENH
Bidirectional mode on	ESC d %	Same				ENH
Print screen						
Print viewport						
Character Sets						
Select primary character set	ESC c D	Same				
Select secondary character set	ESC c E	Same				
Define primary character set [33]	ESC c B <i>bank</i>	Same				
Define secondary character set [33]	ESC c C <i>bank</i>	Same				
Automatic font loading off	ESC e N	Same				
Automatic font loading on	ESC e O	Same				
Load font bank with predefined character set [33, 34]	ESC c @ <i>bank set</i>	Same				
Clear font bank [33]	ESC c ? <i>bank</i>	Same				
Define and load character [33,35,36]	ESC c A <i>bank pp bb . . . bb CTRL Y</i>	Same				

⁹ From start of cursor line to end of page.

IBM 3101	IBM 3161	910 +	920	925	TeleVideo 950	955	PC Term
ESC W ⁷		ESC p ESC x Wyse	ESC p ESC x ² Same	ESC p ESC x Same	ESC p ESC x Same	ESC p ESC x Same	ESC p ESC x Same
		ESC L	ESC L		ESC L	ESC L	
ESC U ⁷ ESC V ⁷				ESC L			ESC L
		ESC A ESC @ ESC a	ESC A ESC @ ESC a	ESC A ESC @ ESC a	ESC A ESC @ ESC a	ESC A ESC @ ESC a	ESC A ESC @ ESC a
		ESC `	ESC `	ESC `	ESC `	ESC `	ESC `
		CTRL T CTRL R	CTRL T CTRL R	CTRL T CTRL R	CTRL T CTRL R	CTRL T CTRL R	CTRL T CTRL R
	ESC SPACE W ESC W						
	CTRL O CTRL N						
	ESC <						

Variable Values for
Table D-2 Commands

[1]	Baud Rate			[2]	stop	Stop Bits
	baud	MODEM Port	AUX Port		0	1
	0	38400	19200		1	2
	1	19200	9600			
	2	9600	7200	[3]	parity	Parity Bit
	3	4800	4800		0	None
	4	2400	3600		1	Odd
	5	2000	2400		2	Mark
	6	1800	2000		3	Even
	7	1200	1800			
	8	600	1200	[4]	word	Data Word
	9	300	600			
	:	150	300		0	7 bits
	;	134.5	150		1	8 bits
	<	110	134.5			
	=	75	110			
	>	50				
[5]	Handshaking Protocol			[6]	max	Maximum Speed
	hndshk	Receive	Transmit			
	0	None	None		1	60 characters per second
	1	X-on/X-off	X-on/X-off		2	None
	2	DTR (MODEM port)			3	150 characters per second
		DSR (AUX port)				
	3	Both				
[7]	answer	Up to 20 characters to define answerback message				
[8]	hh	Hour (two-digit decimal number between 00 and 23)				
[9]	mm	Minutes (two-digit decimal number between 00 and 59)				
[10]	sequence	Up to 255 bytes to be loaded in function key				
[11]	Function Key Values					
	Function	fkey		Function	fkey	
	Key	Unshifted	Shifted	Key	Unshifted	Shifted
	F1	@	`	F9	H	h
	F2	A	a	F10	I	i
	F3	B	b	F11	J	j
	F4	C	c	F12	K	k
	F5	D	d	F13	L	l
	F6	E	e	F14	M	m
	F7	F	f	F15	N	n
	F8	G	g	F16	O	o
[12]	dir	Direction				
	0	Normal				
	1	Remote				
	2	Local				

[13] Editing Key Values

Keyboard Style

WY-60 ASCII	IBM 316X	AT	Enhanced PC	key Value
ESC	ESC	ESC	ESC	SPACE
SHIFT ESC	SHIFT ESC	SHIFT ESC	SHIFT ESC	%
TAB	TAB →	TAB →	TAB →	!
SHIFT TAB	SHIFT TAB →	SHIFT TAB →	SHIFT TAB →	&
BACKSPACE	←BACKSPACE	←(BACKSPACE)	←BACKSPACE	"
SHIFT BACKSPACE	SHIFT ←BACKSPACE	SHIFT ← (BACKSPACE)	SHIFT ←BACKSPACE	'
DEL		DEL		#
SHIFT DEL		SHIFT DEL		(
RETURN	RETURN		ENTER	\$
SHIFT RETURN	SHIFT RETURN		SHIFT ENTER)
HOME	HOME	HOME	HOME	*
SHIFT HOME	SHIFT HOME	SHIFT HOME	SHIFT HOME	/
▲	↑	↑	↑	+
SHIFT ▲	SHIFT ↑	SHIFT ↑	SHIFT ↑	0
▼	↓	↓	↓	,
SHIFT ▼	SHIFT ↓	SHIFT ↓	SHIFT ↓	1
◀	←	←	←	-
SHIFT ◀	SHIFT ←	SHIFT ←	SHIFT ←	2
▶	→	→	→	.
SHIFT ▶	SHIFT →	SHIFT →	SHIFT →	3
ENTER	ENTER	ENTER	ENTER _{kpd}	s
SHIFT ENTER	SHIFT ENTER	SHIFT ENTER	SHIFT ENTER _{kpd}	4
REPL	INSERT	INS	INSERT	q
INS	SHIFT INSERT	SHIFT INS	SHIFT INSERT	p
NEXT PAGE	PAGE	PG DN	PAGE DOWN	r
PREV PAGE	SHIFT PAGE	SHIFT PG DN	SHIFT PAGE DOWN	w
SEND	SEND			u
PRINT	SHIFT SEND			t
CLR LINE	CLEAR			}
CLR SCRN	SHIFT CLEAR			z
DEL CHAR	DELETE		DELETE	5
DEL LINE	SHIFT DELETE		SHIFT DELETE	6
INS CHAR				7
INS LINE				8
	ERASE EOF			Q
	SHIFT ERASE EOF			W
	JUMP			v
	SHIFT JUMP			x
	PRINT	PRT SC	PRINT SCREEN	R
	SHIFT PRINT	SHIFT PRT SC	SHIFT PRINT SCREEN	X
	SEND LINE			S
	SHIFT SEND LINE			Y
	PRINT LINE			T
	SHIFT PRINT LINE			Z
	←TAB			P
	SHIFT ←-TAB			V

Editing Key Values, Continued

Keyboard Style

WY-60 ASCII			IBM 316X	AT	Enhanced PC	key Value
				END	END	\
				SHIFT END	SHIFT END] ^
				+ _{kpd} SHIFT + _{kpd}		-
				~ _{kpd} SHIFT ~ _{kpd}		|
				PG UP	PAGE UP	y
				SHIFT PG UP	SHIFT PAGE UP	:
				5 _{kpd}		<
				SHIFT 5 _{kpd}		=
[14]	scroll	Scrolling Type	Speed (lps)			
	@	Jump scroll				
	<	Smooth scroll	1			
	=	Smooth scroll	2			
	>	Smooth scroll	4			
	?	Smooth scroll	8			
[15]	cursor	Cursor Display				
	0	Cursor display off				
	1	Cursor display on				
	2	Steady block cursor				
	5	Blinking block cursor				
	4	Steady line cursor				
	3	Blinking line cursor				
[16]	Character String	80-Column Screen	132-Column Screen			
	message	46 characters	98 characters			
[17]	text	78 characters	130 characters			
[18]	label	9 characters	7 characters			
[19]	field			field		
	Key	Unshifted	Shifted	Key	Unshifted	Shifted
	F1	0	P	F9	8	X
	F2	1	Q	F10	9	Y
	F3	2	R	F11	:	Z
	F4	3	S	F12	:	[
	F5	4	T	F13	<	\
	F6	5	U	F14	=]
	F7	6	V	F15	>	^
	F8	7	W	F16	?	-
[20]	length	Multiple	Length of Page			
	G	1 x lines	Equal to the number of data lines			
	H	2 x lines	Double the number of data lines			
	I ^a	4 x lines	Four times the number of data lines			
	J	*	One page contains the number of data lines; a second page contains the rest of the lines remaining in memory			

a Available only in WY-50 + personality

[21] ASCII Line and Column Codes (Native Mode^b)

Line/ Column	line/ col	Line/ Column	line/ col	Line/ Column	line/ col	Line/ Column	line/ col
1	space	25	8	49	P	73	h
2	!	26	9	50	Q	74	i
3	"	27	:	51	R	75	j
4	#	28	;	52	S	76	k
5	\$	29	<	53	T	77	l
6	%	30	=	54	U	78	m
7	&	31	>	55	V	79	n
8	'	32	?	56	W	80	o
9	(	33	@	57	X	81	p
10	)	34	A	58	Y	82	q
11	*	35	B	59	Z	83	r
12	+	36	C	60	[	84	s
13	,	37	D	61	\	85	t
14	-	38	E	62	]	86	u
15	.	39	F	63	^	87	v
16	/	40	G	64	_	88	w
17	0	41	H	65	`	89	x
18	1	42	I	66	a	90	y
19	2	43	J	67	b	91	z
20	3	44	K	68	c	92	{
21	4	45	L	69	d	93	|
22	5	46	M	70	e	94	}
23	6	47	N	71	f	95	~
24	7	48	O	72	g	96	DEL/RUB

^b Native codes also recognized in WY-50 +, ADM 31, IBM 3101, IBM 3161, TeleVideo 910 + /920/925/950/955, and PC Term modes, and in ADDS VP A2/60 modes' absolute cursor addressing. (Terminal supports only 24 lines to a page in all personalities except WY-50 + and PC Term.)

ASCII Line Codes (ADDS VP A2/60^c, DASHER D200/D210, HZ-1500)

ADDS VP A2/60 DASHER D200/D210		ADDS VP A2/60 DASHER D200/D210	
Line	HZ-1500	Line	HZ-1500
1	CTRL @	13	CTRL L
2	CTRL A	14	CTRL M
3	CTRL B	15	CTRL N
4	CTRL C	16	CTRL O
5	CTRL D	17	CTRL P
6	CTRL E	18	CTRL Q
7	CTRL F	19	CTRL R
8	CTRL G	20	CTRL S
9	CTRL H	21	CTRL T
10	CTRL I	22	CTRL U
11	CTRL J	23	CTRL V
12	CTRL K	24	CTRL W

^c Vertical addressing (CTRL K)

ASCII Column Codes (ADDS VP A2/60^d, DASHER D200/D210, HZ-1500)

Column	ADDS VP A2/60	DASHER D200/D210	HZ-1500	Column	ADDS VP A2/60	DASHER D200/D210	HZ-1500
1	CTRL @	CTRL @	CTRL @	41	@	(	.
2	CTRL A	CTRL A	CTRL A	42	A)	/
3	CTRL B	CTRL B	CTRL B	43	B	*	0
4	CTRL C	CTRL C	CTRL C	44	C	+	1
5	CTRL D	CTRL D	CTRL D	45	D	,	2
6	CTRL E	CTRL E	CTRL E	46	E	-	3
7	CTRL F	CTRL F	CTRL F	47	F	.	4
8	CTRL G	CTRL G	CTRL G	48	G	/	5
9	CTRL H	CTRL H	CTRL H	49	H	0	6
10	CTRL I	CTRL I	CTRL I	50	I	1	7
11	CTRL P	CTRL J	CTRL J	51	P	2	8
12	CTRL Q	CTRL K	CTRL K	52	Q	3	9
13	CTRL R	CTRL L	CTRL L	53	R	4	:
14	CTRL S	CTRL M	CTRL M	54	S	5	;
15	CTRL T	CTRL N	CTRL N	55	T	6	<
16	CTRL U	CTRL O	CTRL O	56	U	7	=
17	CTRL V	CTRL P	CTRL P	57	V	8	>
18	CTRL W	CTRL Q	CTRL Q	58	W	9	?
19	CTRL X	CTRL R	CTRL R	59	X	:	@
20	CTRL Y	CTRL S	CTRL S	60	Y	;	A
21	SPACE	CTRL T	CTRL T	61	/	<	B
22	!	CTRL U	CTRL U	62	a	=	C
23	"	CTRL V	CTRL V	63	b	>	D
24	#	CTRL W	CTRL W	64	c	?	E
25	\$	CTRL X	CTRL X	65	d	@	F
26	%	CTRL Y	CTRL Y	66	e	A	G
27	&	CTRL Z	SPACE	67	f	B	H
28	'	CTRL [	!	68	g	C	I
29	(	CTRL \	"	69	h	D	J
30	)	CTRL]	#	70	i	E	K
31	0	CTRL ^	\$	71	p	F	L
32	1	CTRL _	%	72	q	G	M
33	2	SPACE	&	73	r	H	N
34	3	!	'	74	s	I	O
35	4	"	(	75	t	J	P
36	5	#	)	76	u	K	Q
37	6	\$	*	77	v	L	R
38	7	%	+	78	w	M	S
39	8	&	,	79	x	N	T
40	9	'	-	80	y	O	U

^d Horizontal addressing (CTRL P)

- [22] **n** **Screen Area**
- 0 Data area^e
 - 1 Function key label line
 - 2 Terminal message field
 - 3 Computer message field

e In native mode, only the reverse attribute can be assigned to the data area.

[23] **Display Attribute Codes**

<i>attr</i>	Display Attributes	<i>attr</i>	Display Attributes
SPACE	Space character	r	Dim and blink
0	Normal	s	Dim, blink, invisible
1	Invisible	t	Dim and reverse
2	Blink	u	Dim, reverse, invisible
3	Invisible	v	Dim, reverse, blink
4	Reverse	w	Dim, reverse, blink, invisible
5	Reverse and invisible	x	Dim and underline
6	Reverse and blink	y	Dim, underline, invisible
7	Reverse, blink, invisible	z	Dim, underline, blink
8	Underline	{	Dim, underline, blink, invisible
9	Underline and invisible	|	Dim, underline, reverse
:	Underline and blink	}	Dim, underline, reverse, invisible
;	Underline, blink, invisible	~	Dim, underline, reverse, blink
<	Underline and reverse	DEL	Dim, underline, reverse, blink, invisible
=	Underline, reverse, invisible		
>	Underline, reverse, blink		
?	Underline, reverse, blink, invisible		
p	Dim		
q	Dim and invisible		

[24] **Write-Protected**

















<i>wpc</i>	Display Attribute
6	Reverse ^f
7	Dim ^f
A	Normal ^f
B	Blink on
C	Invisible on
E	Underline on
F	Reverse on
G	Dim on

f Clears other write-protected attributes

[25] *lattr* **Line Attribute**

- @ Single-high, single-wide characters
- A Single-high, double-wide characters
- B Top half of double-high, single-wide characters
- C Bottom half of double-high, single-wide characters
- D Top half of double-high, double-wide characters
- E Bottom half of double-high, double-wide characters
- G Normal background
- H Bold background
- I Invisible background
- J Dim background

[26] **Graphics Character Codes**

Graphics Character	key	Graphics Character	key	Graphics Character	key
	0		6		<
	1		7		=
	2		8		>
	3		9		?
	4		:		
	5		;		

[27] *wnd/page* **Window or Page**

- 0 Page 0 or upper window
- 1 Page 1 or lower window
- 2 Page 2
- 3 Page 3
- 4 Page 4
- 5 Page 5
- 6 Page 6

[28] *lll* One- to three-decimal value of line relative to home

[29] *ccc* One- to three-decimal value of column relative to home

[30] *char* Character that replaces unprotected characters

[31] *width* Column code from [20] for column number representing absolute number of columns to right of cursor

[32] *height* Line code from [20] for line number representing absolute number of lines below cursor

[33] **bank** **Font Bank^g**

0	Font bank 0
1	Font bank 1
2	Font bank 2
3	Font bank 3

g Holds predefined character set

[34] **set** **Predefined Character Set**

@	Native mode
A	Multinational
B	Standard ASCII
C	Graphics 1
D	PC equivalent
E	Graphics 2
F	Graphics 3
G	Standard ANSI
`	44-line native mode
a	44-line multinational
b	44-line PC equivalent
c	44-line Standard ASCII
d	44-line Standard ANSI

[35] **pp** 2-byte hex value of character position^h

h In the illustrations, DEC = decimal value; HEX = hexadecimal value. Read across, then down.

Native Mode

DEC	0	16	32	48	64	80	96	112
HEX	0	1	2	3	4	5	6	7
0	0				00@P'p			
1	1	S	L	!	1AQaq			
2	2	S	X	"	2BRbr			
3	3	E	X	#	3CScs			
4	4	E	T	\$	4DTdt			
5	5	E	Q	%	5EUeu			
6	6	A	K	&	6FVfv			
7	7	B	L	'	7GWgw			
8	8	B	S	(	8HXhx			
9	9	H	T	)	9IYiy			
10	A	L	F	*	:JZjz			
11	B	V	T	+	;K[k{			
12	C	F	F	,	<L\l!			
13	D	C	R	-	=M]m}			
14	E	S	O	.	>N^n~			
15	F	S	I	/	?O_o			

Multinational

DEC	0	16	32	48	64	80	96	112
HEX	0	1	2	3	4	5	6	7
0	0	Ç	É	á		α	≡	
1	1	Ü	æ	í		ß	±	
2	2	é	é	ó		Γ	≥	
3	3	â	ô	ú		π	≤	
4	4	ä	ö	ñ		Σ	∫	
5	5	à	ò	ñ		∫	∫	
6	6	ä	ô	æ		μ	÷	
7	7	ç	ù	ó		∫	≈	
8	8	ê	ÿ	¿		∫	°	
9	9	ë	ö	∫		∫	∫	
10	A	è	ü	∫		∫	∫	
11	B	ï	ç	∫		∫	∫	
12	C	î	£	∫		∫	∫	
13	D	ì	¥	∫		∫	∫	
14	E	Ä	R	∫		∫	∫	
15	F	Ä	f	∫		∫	∫	

Standard ASCII

DEC	0	16	32	48	64	80	96	112
HEX	0	1	2	3	4	5	6	7
0	0				00@P'p			
1	1	S	L	!	1AQaq			
2	2	S	X	"	2BRbr			
3	3	E	X	#	3CScs			
4	4	E	T	\$	4DTdt			
5	5	E	Q	%	5EUeu			
6	6	A	K	&	6FVfv			
7	7	B	L	'	7GWgw			
8	8	B	S	(	8HXhx			
9	9	H	T	)	9IYiy			
10	A	L	F	*	:JZjz			
11	B	V	T	+	;K[k{			
12	C	F	F	,	<L\l!			
13	D	C	R	-	=M]m}			
14	E	S	O	.	>N^n~			
15	F	S	I	/	?O_o			

Graphics 1

DEC	HEX	0	16	32	48	64	80	96	112
DEC	HEX	0	1	2	3	4	5	6	7
0	0				0			0	
1	1				1			1	
2	2				2			2	
3	3				3			3	
4	4				4			4	
5	5				5			5	
6	6				6			6	
7	7				7			7	
8	8				8			8	
9	9				9			9	
10	A								
11	B								
12	C								
13	D								
14	E								
15	F								

Graphics 2

DEC	HEX	0	16	32	48	64	80	96	112
DEC	HEX	0	1	2	3	4	5	6	7
0	0								
1	1								
2	2								
3	3								
4	4								
5	5								
6	6								
7	7								
8	8								
9	9								
10	A								
11	B								
12	C								
13	D								
14	E								
15	F								

Graphics 3

DEC	HEX	0	16	32	48	64	80	96	112
DEC	HEX	0	1	2	3	4	5	6	7
0	0								
1	1								
2	2								
3	3								
4	4								
5	5								
6	6								
7	7								
8	8								
9	9								
10	A								
11	B								
12	C								
13	D								
14	E								
15	F								

Standard ANSI

DEC	0	16	32	48	64	80	96	112
HEX	0	1	2	3	4	5	6	7
0	0			0@P'p				
1	1	◆	□	!1AQaq				
2	2	▒	□	"2BRbr				
3	3	H	□	#3CScs				
4	4	F	□	\$4DTdt				
5	5	C	□	%5EUeu				
6	6	L	□	&6FVfv				
7	7	°	□	'7GWgw				
8	8	±	□	(8HXhx				
9	9	N	□	)9IYiy				
10	A	U	□	*:JZjz				
11	B	J	□	;K[k{				
12	C	h	□	,<L\l!				
13	D	L	□	=M]m}				
14	E	f	□	.>N^n~				
15	F	+	□	?O_o				

PC Equivalent

DEC	0	16	32	48	64	80	96	112
HEX	0	1	2	3	4	5	6	7
0	0		▶	0@P'p				
1	1	☺	◀	!1AQaq				
2	2	☼	⬆	"2BRbr				
3	3	♥	!!	#3CScs				
4	4	◆	¶	\$4DTdt				
5	5	⬆	§	%5EUeu				
6	6	♠	—	&6FVfv				
7	7	♦	‡	'7GWgw				
8	8	•	↑	(8HXhx				
9	9	◦	↓	)9IYiy				
10	A	◻	→	*:JZjz				
11	B	♂	++	;K[k{				
12	C	♀	—	,<L\l!				
13	D	♂	—	=M]m}				
14	E	♂	▲	.>N^n~				
15	F	☼	▼	?O_o				

[36] *bb . . . bb* 32-byte character string defining bit pattern of character

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